DOCUMENT RESUME

ED 340 441 JC 920 054

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TITLE Superconducting Super Collider Economic Data. SSC Technical Training Project. Navarro College/Dallas County Community College District.
INSTITUTION Dallas County Community Coll. District, Tex.; Navarro Coll., Corsicana, Tex.
SPONS AGENCY Texas Higher Education Coordinating Board, Austin.
PUB DATE Dec 91
NOTE 127p.; For a related document, see JC 920 053.
PUB TYPE Reports - Descriptive (141) -- Statistical Data (110)

EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS Community Colleges; *Economic Impact; Employers; Employment; *Employment Statistics; *Job Training; *Labor Market; Labor Needs; *Occupational Information; Regional Programs; Tables (Data); Two Year Colleges
IDENTIFIERS *Superconducting Super Collider Laboratory; *Texas

ABSTRACT

In 1991, a project was undertaken to gather information to evaluate the impact of the Superconducting Super Collider Laboratory (SSCL) on the training and employment needs of North Central Texas. Project goals were to: (1) revise and expand INTERLINK's labor demand estimates and forecasts for the combined North Central Texas and SSCL regions; (2) disaggregate all regional labor demand estimates and forecasts to the county level; (3) estimate the occupational structure of the direct and indirect regional employment effects of the SSCL; (4) identify regional employers of the occupations significantly affected by the event of the SSCL; (5) inventory vocational education graduates of community colleges and technical institutes in Texas; and (6) produce a custom version of INTERLINK's microcomputer-based Labor Market Information System incorporating the SSC Technical Training Project data. The labor market of the combined 16-county North Central Texas region, plus Hill and McClennan Counties, was studied. The bulk of the project report consists of appendixes providing SSCL employment information, disk file documentation, a North Central Texas employer listing, an SSC technical training project supplement to the users' manual for INTERLINK, technical documentation of regional labor demand and statewide labor supply data bases, and SSCL direct and indirect job descriptions by Occupational Employment Statistics code. (JMC)

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Superconducting Super Collider Economic Data

Navarro College/Dallas County Community College District
SSC Technical Training Project

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The Texas Higher Education Coordinating Board

Carl D. Perkins Vocational Education Act

Project No. 11140002

Printed Under Project No. 22140010

December 1991

JC 920054

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Superconducting Super Collider
Economic Data

Navarro College/Dallas County Community College District
SSC Technical Training Project

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WHAT IS NCTCOG?

The North Central Texas Council of Governments (NCTCOG)[1] is a voluntary association of cities, counties, school districts, and special districts in the sixteen-county North Central Texas (NCT) region. Established in January, 1966, NCTCOG assists local governments in planning for common needs, cooperating for mutual benefit, and coordinating for sound regional development.

The Council of Governments (COG) is an organization of, by, and for local governments. It strengthens both the individual and collective power of local governments--and helps them recognize regional opportunities, resolve regional problems, eliminate unnecessary duplication, and make joint regional decisions. COG also develops the means to assist in the implementation of those decisions.

North Central Texas is a sixteen-county metropolitan region centered around Dallas and Fort Worth. Currently, NCTCOG has 213 member governments including 16 counties, 154 cities, 23 school districts, and 20 special districts. The area of the region, 12,789 square miles, is larger than nine of the smallest states, and its population of over 4.1 million is larger than 29 states.

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NCTCOG'S REGIONAL DATA CENTER

The mission of the NCTCOG Regional Data Center is to provide objective, consistent, and timely information and analysis on the development of the region for use in the planning and economic development activities of local governments in North Central Texas. The substantive focus of the activities is on population, employment, labor force, residential and commercial real estate, and land use trends at the regional and sub-regional levels. These services focus on the needs of local governments in North Central Texas, and are provided on a fee-for-service basis to the private sector in order to promote regional consistency of information and methodology, and to enhance the services provided to member governments.

Questions concerning this report should be directed to Lyssa Jenkens, 817/640-3300

[1]Definitions for anachronisms used in this report are included in the Glossary at the end of this document.

SECTION I: INTRODUCTION

The purpose of this project was to develop the information resources required to evaluate the impact of the Superconducting Super Collider Laboratory (SSCL) on the training and employment needs of the North Central Texas region. To that end, six specific tasks were undertaken, as detailed below:

Project Tasks

1. Revise and expand INTERLINK's labor demand estimates and forecasts for the combined North Central Texas and SSCL regions.

2. Disaggregate all regional labor demand estimates and forecasts to the county level of analysis.

3. Estimate the occupational structure of the direct and indirect regional employment effects of the event of the SSCL.

4. Identify regional employers of the occupations significantly affected by the event of the SSCL.

5. Inventory vocational education program completers for community colleges and technical institutes throughout the state of Texas.

6. Produce a custom version of INTERLINK's PC-based Labor Market Information System (LMIS) incorporating the SSC Technical Training Project data.

The tasks of this project were specifically designed to maximize the use of existing information resources of the various organizations and agencies concerned with labor force development issues to provide custom databases focused upon the SSCL. The primary resources utilized in this effort were the databases, methodologies and software developed by INTERLINK, the Quality Work Force Planning (QWFP) organization for North Central Texas, and the State Occupational Information Coordinating Committee (SOICC), which is also part of the QWFP efforts in Texas. The net result of this coordination has been the enhancement of existing, and the addition of new, labor market information (LMI) resources in North Central Texas.

The labor market geography used in this study is the combined 16-county North Central Texas region plus Hill and McClennan counties, which were included because of their close proximity to the SSCL and their community college and technical institutes' training resources for the SSCL.[2] The period of study addresses the ten-year construction to operation phase of the SSCL, assumed to commence immediately for analytical purposes. **The details and outcomes of each of the project tasks are fully described in the following sections of this report. All of the databases developed as part of this study are formatted in Dbase disk files as well as in other hard and soft media, as described in the report and detailed in the technical appendices. The databases developed in this project were, also, integrated into INTERLINK's Labor Market Information System, PC-based software, where relevant, to produce the SSC Technical Training Project version of this system.**

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[2]The North Central Texas region includes Collin, Dallas, Denton, Ellis, Erath, Hood, Hunt, Johnson, Kaufman, Navarro, Palo Pinto, Parker, Rockwall, Somervell, Tarrant, and Wise Counties.

SECTION II: NORTH CENTRAL TEXAS LABOR DEMAND ESTIMATES AND FORECASTS

Timely and accurate information regarding labor demand conditions in the North Central Texas regional market is critical to any evaluation of the SSCL's employment and training impacts. Hence, a primary goal of this project was to develop appropriate labor demand data resources for the geography and time period of interest.

INTERLINK's LMIS labor demand databases and methodologies were used as the primary resource for this task. The LMIS was developed specifically for occupational evaluation programs in North Central Texas under the State's QWFP efforts and provides the most detailed, region-specific data available. At the initiation of this project, the LMIS labor demand estimates were current to 1989 and the forecasts extended annually to 1995 for the 16 counties in North Central Texas.

This project updated the LMIS estimates to 1990, expanded the geographic boundaries to include Hill and McClennan counties, and provided revised forecasts that were extended to the year 2000. The estimates for 1988 and 1989 were also adjusted to include the two additional counties. All of the data was processed to three-digit Standard Industrial Classification (SIC) and five-digit Occupational Employment Statistics (OES) codes in keeping with the level of detail provided previously in the LMIS.

The 1990 estimates were developed from the December 1990 Bureau of Labor Statistics (BLS) 790 data series of wage and salary employment which is provided at two-digit SIC codes. The BLS data was adjusted for non-wage and non-salaried employment using other secondary data resources and processed through standard matrices to develop the detailed industrial and occupational employment figures. The 1988 BLS data was similarly manipulated for the two additional counties to make the appropriate adjustments to the historical LMIS databases.

The labor demand forecasts were based upon the outcomes of INTERLINK's annual Board of Economists meeting. Sponsored in conjunction with the SSC Technical Training Project in 1991, this meeting convened local experts from the public and private sectors to review historical trends, previous forecasts and alternative models of the region's employment to update and revise the North Central Texas labor demand projections.

The forecasts used in this study reflect the consensus developed by the Board regarding the rate and structure of total and sectorial employment growth for North Central Texas in the 1990s. As with the labor demand estimates, the forecasts were initially developed at the two-digit SIC code level of analysis. These figures were then processed through standard matrices to derive three-digit SIC and five-digit OES code data.

The Board of Economists specifically addressed each of the top twenty, two-digit SIC code industries, accounting for more than two-thirds of the region's labor force as detailed in Table 1. The remaining portion of the labor force was then allocated across the other 50 industries based upon their historical employment shares and the total labor demand projections.

TABLE 1: REGIONAL EMPLOYMENT

SIC CODE	INDUSTRY TITLE	Employment 1990	1995	2000
73	Business Services	168064	212041	261927
80	Health Services	137284	173757	215205
82	Educational Services	136178	156814	178156
58	Eating and Drinking Places	127425	146734	166704
50	Wholesale Trade: Durable	96816	111486	126659
36	Electronic/Electric Equipment	75065	90577	107602
37	Transportation Equipment	71208	52266	56633
51	Wholesale Trade: nondurable	63395	73001	82936
93	Local Government	61036	70284	79849
54	Food Stores	60945	70179	79731
17	Special Trades Contractors	54788	68933	84949
53	General Merchandise Stores	53931	62104	70556
59	Miscellaneous Retail	52076	59968	68129
63	Insurance Carriers	45062	45509	45510
45	Transportation By Air	43737	52964	60314
55	Automotive Dealers/Service Stations	41971	48331	54908
65	Real Estate	41603	46025	46544
42	Trucking and Warehousing	38222	43441	47062
72	Personal Services	34611	41115	48138
86	Membership Organizations	34002	39154	44482
TOP TWENTY EMPLOYMENT:		**1437419**	**1664683**	**1925994**
REMAINING EMPLOYMENT:		**727036**	**827755**	**905649**
TOTAL REGIONAL EMPLOYMENT:		**2164455**	**2492438**	**2831643**

The labor demand estimates and forecasts for the 18-county study area clearly reveal a large, robust labor market surrounding the SSCL. The 2.16 million person labor force is expected to grow at an annual rate of 2.7 percent through the 1990s, yielding a regional labor market of 2.83 million persons in the year 2000. This growth rate is nearly double that predicted for the nation as a whole and is attributed to the region's concentration in the post-industrial sectors of the economy, such as Business Services, Health and Education.

The labor demand estimates and forecasts for the 18-county region are available in standard Dbase disk files that are fully integrated into the SSC Technical Training Project version of INTERLINK's LMIS. These files and the PC-based LMIS are more fully discussed in Section VII of this report as well as in the technical appendices to this report. Further, the details of the labor demand data construction are documented in Appendix E.

SECTION III: COUNTY LEVEL LABOR DEMAND DATA

The labor demand data developed for this project was disaggregated to the county level of analysis to provide more detailed information regarding the localized magnitude of the SSCL's employment effects. Further, this level of disaggregation is also important in the evaluative efforts of local training providers, especially as they are impacted by specific events such as the SSCL.

The disaggregations were performed on the basis of the proportion of the total regional employment captured by each county as reported in the 1988 County Business Patterns publication of the Census Bureau. Due to the short time frame of this project, no industry specific or time adjustments were developed for the individual counties. However, such adjustments are highly recommended in future efforts, especially if more detailed industrial or occupational data is desired for the outlying counties.

Dallas and Tarrant counties account for the vast majority of employment in this region, capturing 59 percent and 24 percent of the total respectively. These two core counties are followed by McClennan, Collin and Denton, which account for another 11 percent combined. The remaining 6 percent of regional employment is spread across 13 counties.

The nine-county SSC region of influence (ROI) captures 90 percent of the 18-county labor market, largely because both Dallas and Tarrant counties are within the ROI. The data for the ROI counties are detailed below in Table 2 for selected years.

TABLE 2: ROI EMPLOYMENT

COUNTY	---TOTAL EMPLOYMENT---		
	1990	**1995**	**2000**
Dallas	1281143	1475274	1676053
Ellis	22291	25670	29165
Hill	5627	6482	7361
Johnson	20560	23679	26898
Kaufman	10820	12462	14162
McClennan	80300	92471	105054
Navarro	13206	15202	17273
Rockwall	5409	6233	7081
Tarrant	515140	593199	673933
TOTAL ROI:	**1954496**	**2250672**	**2556980**
TOTAL NCT:	**2164455**	**2492438**	**2831643**

The location of the SSCL in Ellis County, southward of the dominant counties in this region, alters the magnitude of its employment effects significantly. Specifically, in the ten year construction to operation period under study, the largest direct and indirect SSCL employment impacts occur in year four, at 3,893 and 4,499 workers, respectively. In a regional labor market exceeding 2 million, these figures account for less than one-half of one percent of total employment. Yet, in Ellis County, with total 1990 employment at approximately 22,000, the direct SSCL jobs in year four alone promise an increase of nearly 18 percent to total employment. And, to the extend that Ellis and other outlying counties capture indirect employment, the ebb and flow of labor force impacts of the SSCL will be increasingly noticeable in localized labor markets.

The disaggregated labor demand data for Tarrant and Dallas counties was processed to both the three-digit SIC level of industrial and five-digit OES level of occupational employment. This was possible due to the dominance and large employment sizes of these two core counties in the region. For the remaining 16 counties, however, the data was processed only to the two-digit SIC industrial level of analysis. The numbers for these counties are generally much too small to provide more detail with any degree of accuracy, especially without industry specific or time adjustments. All of the county level data developed for this project is provided in standard Dbase disk files, as documented in Appendix B. Further, the technical details of the data construction are outlined in Appendix E.

SECTION IV: SSCL EMPLOYMENT EFFECTS IN THE NORTH CENTRAL TEXAS REGION

Background

The direct and indirect employment effects of the SSCL in the North Central Texas region have been estimated by Robert D. Niehaus, Inc., (RDN) in the Environmental Impact Statements (EIS) for the Department of Energy (DOE) and, most recently, in a 1990 follow-up study for Argonne Laboratory. RDN's methodologies have been effectively approved by the DOE with their continued acceptance in the Final Supplemental Environmental Impact Statements and this project has not encountered any general data resources more timely than were used in their 1990 updates. The task for this portion of the study, then, was to disaggregate and localize the data developed by RDN into more detailed occupational levels for both the direct and indirect employment effects of the SSCL for the North Central Texas region.

RDN's 1990 estimates of direct employment are based primarily upon SSCL cost estimate documents, and the indirect employment figures were derived through an input/output model. RDN's figures address the nine-year construction phase, the three-year pre-operation period and the first year of full operation, as detailed in Table 3.

Table 3: SSC-Related Changes in Regional Economic Activity

	Construction Year									Pre-operation Year			Full Oper
	1	2	3	4	5	6	7	8	9	10	11	12	13
SSC Related Jobs	3,069	6,348	8,713	9,390	8,011	6,991	6,327	7,093	5,132	4,215	5,047	5,533	5,706
Direct Jobs	1,550	2,746	3,740	3,893	3,513	3,296	3,126	3,733	2,641	2,427	2,893	3,158	3,248
Construction	824	1,675	2,279	2,262	1,867	1,417	971	653	416	0	0	0	0
Crafts	199	680	925	903	631	422	241	119	54	0	0	0	0
Technical	246	483	721	731	707	583	525	394	261	0	0	0	0
Management, Clerical	379	511	633	627	529	411	206	140	101	0	0	0	0
Operation/Pre-Operation	726	1,071	1,461	1,632	1,646	1,879	2,155	3,081	2,225	2,427	2,893	3,158	3,248
Professional	268	388	517	525	511	562	648	981	656	732	909	1,010	1,044
Technical	78	112	150	152	148	163	188	284	190	212	263	292	302
Clerical and other	360	521	694	705	686	754	869	1,316	880	983	1,220	1,356	1,401
Visiting scientists	20	50	100	250	300	400	450	500	500	500	500	500	500
Secondary Jobs	1,519	3,602	4,973	5,497	4,499	3,695	3,201	3,360	2,491	1,788	2,154	2,375	2,458
Manufacturing	214	615	815	847	628	468	343	307	207	150	178	196	202
Transportation, Utilities	117	266	358	438	404	383	397	456	363	282	342	380	395
Trade	433	980	1,392	1,538	1,248	1,008	870	921	679	471	565	621	642
Services	569	1,327	1,836	2,042	1,693	1,392	1,197	1,255	930	655	793	874	904
Other	185	415	572	631	526	443	394	421	311	230	276	304	314

SOURCE: RDN, Inc., "Draft Socioeconomic and Infrastructure Impact Assessment for the Superconducting Super Collider in Texas: An Analysis in Support of the Supplemental Environmental Impact Statement," August 1990.

SSCL Direct Employment

The occupational structure of the direct employment at the SSCL was evaluated on the basis of the actual 1991 staffing patterns at both SSCL and Parsons Brinckerhoff/Morrison Knudsen (PB/MK), serving as the primary contractor, as well as upon any published job announcements, in conjunction with the labor cost estimate reports for the next ten years generated by the SSCL Project Management Office. The documents presenting this data are attached in Appendix A.I.a, b, c to this report.

Table 4: SSCL Direct Employment Occupational Structure

I. Management/Administration
- A. Managers
  - 1. General
  - 2. Departmental/Functional
- B. Financial Specialists
- C. Purchasing/Contract Specialist
- D. Personnel/Human Resource Specialists
- E. Other Professional Support Staff

II. Professional
- A. Engineers
  - 1. Electrical
  - 2. Mechanical
  - 3. Construction
  - 4. Other
- B. Scientists
  - 1. Physicists
  - 2. Other Physical and Natural/Life Scientists
- C. Computer Specialists
  - 1. System Analysts
  - 2. Programmers
- D. Other Professional Specialists

III. Technical
- A. Engineering Technicians
  - 1. Electrical/Electronic
  - 2. Mechanical
  - 3. Other
- B. Designers/Drafters
  - 1. Electrical
  - 2. Mechanical
  - 3. Other
- C. Other Technicians

IV. Clerical and Other Support Staff
- A. Secretaries
- B. Clerks
- C. Other Clerical/Manual Labor

V. Construction Crafts

These resources present a fairly clear picture of the general occupational structure of direct employment at the SSCL, as outlined in Table 4. The basic structure has five dominant categories of occupational employment: management and administration, professional, technical, clerical and other support staff, and construction trades. Further, many of the occupational groups within each of the dominant categories are fairly clear with the notable exception of the construction crafts. Additional detail underlying this occupational structure is provided in the "Staffing Patterns Summaries" of Appendix A.I.a.

The direct employment occupational figures for the ten year construction to operation period were derived by proportioning current staffing patterns across each of the functional groups within the RDN estimates. Construction and operation data were first estimated separately, based upon current PB/MK and SSCL employment respectively, and then aggregated by occupation. The data was processed to the three-digit OES level of analysis where feasible and to more summary levels of occupational groupings elsewhere. Further, the relative proportions of each occupational grouping were held constant over time as there was no empirical basis for adjustment. The direct employment estimates are detailed in Table 5. Definitions for these OES codes for direct employment estimates are included in Appendix F of this report.

Table 5: SSCL Direct Employment Estimates

OES Code	Title	Year 1	2	3	4	5	6	7	8	9	10
Management & Administration		541	752	963	965	871	816	718	945	638	619
10000	Managers	213	293	372	371	330	296	237	291	198	177
21100	Fin. Admin.	51	72	94	95	88	88	89	125	84	88
21300	Purchasing	74	103	133	134	123	120	114	157	106	108
21500	Personnel	41	57	73	74	68	66	62	86	58	59
21999	Other Administration	163	227	290	291	263	246	217	285	192	187
Professional & Technical		612	1033	1488	1658	1666	1708	1811	2159	1607	1444
20000	Prof/Tech, NEC	27	52	77	78	76	64	59	49	33	7
22100	Engineers	293	510	731	742	719	660	663	735	490	351
22500	Technicians	103	160	222	225	219	221	241	323	216	212
24000	Scientists, Ex Visiting	117	176	240	243	237	249	278	396	265	278
24000	Visiting Scientists	20	50	100	250	300	400	450	500	500	500
25100	Computer Specialists	52	84	118	119	116	114	121	155	104	95
Clerical & Other Support		205	290	378	381	356	361	367	525	353	374
50000	Clerical/Other Support	205	290	378	381	356	361	367	525	353	374
Construction Crafts		199	680	925	903	631	422	241	119	54	0
87000	Construction, Not Cov.	38	129	176	172	120	80	46	23	10	0
87000	Construction, Covered	161	551	749	731	511	342	195	96	44	0
Total Direct Employment		**1550**	**2745**	**3740**	**3893**	**3512**	**3295**	**3127**	**3734**	**2642**	**2427**

This portion of the study revealed the two most important immediate results of the project. First, the vast majority of employment within the construction crafts is covered by the Davis-Bacon Act. This employment is represented as the "covered" category of construction crafts. The Davis-Bacon Act, reproduced in Appendix A.I.d to this report, mandates that "prevailing" wage rates be used in federal construction projects, as determined by regularly updated Department of Labor surveys. Typically, union wages are found to prevail in many of the crafts found at heavy construction projects, such as the SSCL. Although this does not mandate unionized labor, there is a perception that it may effectively result in such. This effect, combined with the significant surpluses of experienced construction labor existing in the NCT region, indicates that **there will be few employment opportunities for inexperienced, newly trained workers in the construction of the SSCL.**

The second finding is that the SSCL direct employment effects promise to exert pressure on occupations that are already in high demand in this region. Specifically, significant proportions of the SSCL direct employment are accounted for by managers, secretaries, engineers, and technicians. These occupational groups were specifically targeted in the 1990 QWFP efforts as the first, second, eighth, and ninth ranked employment fields in North Central Texas, respectively, over the next five years, without any specific recognition of the event of the SSCL. Additionally, the labor demand data developed for this project indicates that these four occupational groups will remain in extremely high demand in this region throughout the 1990s, with pressures increasing for engineers and technicians as the decade progresses.

Each of these occupational groups requires specific training beyond high school, and the pressures added by the SSCL indicate that even greater attention is warranted in developing the region's educational and training program capacities. **The extent to which this region is able to produce quality labor in these occupations, especially in the engineering and technical fields, could well affect the degree to which the SSCL will have any significant spin off effects in the longer term.**

SSCL Indirect Employment

The occupational structure of regional employment generated indirectly by the SSCL was estimated using the State of Texas Input/Output (I/O) model in combination with standard industrial to occupational matrices. The I/O model, developed by the Comptroller's Office, is available for QWFP efforts through the State's automated LMI system, known as SOCRATES. Further, the industrial to occupational transformation matrices are also available through this software package under the Matrix Statistics (MATSTATS) module.

This study used the largest version of the I/O model, covering 157 industrial sectors of the economy, to provide the greatest detail possible. SSCL direct employment was entered into the model as "Non-commercial Educational, Scientific and Research" activities (sector 133), and 32 sectors capturing one percent or more of indirect employment were extracted for analysis.

The 32 sectors of interest represent 130 unique three digit Standard Industrial Classification (SIC) industries and account for over 70 percent of all indirect employment effects, as displayed in Appendix A.II to this report. The relevant proportions of total annual indirect employment, as estimated by RDN, was allocated across each industry, and the 1995 occupational structures of each were analyzed. One hundred and eighteen (118) occupations at the five digit Occupational Employment Statistics (OES) code level of analysis capturing at least five workers in the peak year four were retained for analysis. These 118 occupations are specifically identified in Appendix A.II. This slice in the data represents less than one tenth of one percent of annual indirect employment at the occupation level. The remaining indirect employment was then reallocated across the selected occupations proportionately.

The occupational data was sequentially aggregated by OES code to develop meaningful groupings in terms of both their numerical size as well as in their skills and training requirements. This process yielded twenty occupational groups for the SSCL indirect employment, at one and two digit OES codes, as displayed in Table 6. Definitions of the OES codes for indirect employment estimates are included in this report at Appendix G.

Table 6: SSCL Indirect Employment

		Year									
OES	**Title**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
10000	Managers, NEC	12	45	60	68	56	45	41	41	23	14
19000	General/All Other Mgrs.	143	325	453	511	400	330	281	304	235	174
20000	Professional/Technical	61	137	184	202	167	139	123	130	96	69
30000	Education/Health/Related, NEC	20	47	66	76	60	49	45	46	36	23
32000	Health Occupations	61	126	174	192	158	129	117	119	96	69
40000	Sales and Related, NEC	17	45	68	72	58	45	37	24	27	21
49000	Sales/Related, Direct	324	737	988	1087	898	756	659	701	519	380
50000	Clerical/Other Support, NEC	17	77	116	126	100	81	65	72	39	34
53000	Industry Specific Clerical	25	68	95	101	81	69	60	61	43	32
55000	Secretarial/General Office	93	333	505	571	452	347	292	310	216	133
60000	Service Workers, NEC	52	109	149	161	133	111	95	102	77	55
62000	Private Household Services	74	156	209	231	190	159	140	148	116	82
65000	Food Services	251	555	733	814	673	568	497	523	394	274
67000	Cleaning/Building Services	54	120	161	177	148	120	106	106	77	62
70000	Agricultural/Farm/Related	25	51	70	76	65	54	50	46	32	25
80000	Prod/Const/Maint/Rel., NEC	42	98	137	146	123	103	84	89	68	50
85000	Mechanics/Installers/Repair	59	139	180	206	169	139	123	121	96	66
87000	Construction Trades	66	147	199	216	183	152	132	143	109	78
97000	Transportation Operators	57	135	201	221	188	141	119	128	89	71
98000	Helpers/Laborers	66	152	224	241	196	159	136	148	102	78
Total	**Indirect Employment**	**1519**	**3602**	**4973**	**5497**	**4499**	**3695**	**3201**	**3360**	**2491**	**1788**

Clearly the majority of indirect employment generated by the SSCL in the ten years under study will be directed towards the household or consumer sector of the economy. The identified occupational groups performing consumer services directly are health, sales, food and household workers, accounting for over 40 percent of all indirect SSCL employment. Typically, these occupations capture approximately 25 percent of the total regional economy. Further, many of the SSCL's indirect management, professional, clerical and other support workers will be involved in the businesses providing personal consumer services, and most of the construction employment will be in the residential sector. The SSCL's indirect employment bias towards the consumer sector is further evidenced by the relatively low proportion of general professional and production workers at less than 7 percent, compared to the regional figures of over 18 percent.

In the near term, then, the indirect employment effects display an occupational structure designed to service the household sector. They also suggest that **few immediate spin-off effects, in terms of high tech industries, are anticipated from the SSCL during the 10 year construction to operation phase.**

SSCL Regional Employment Effects

The estimated direct and indirect employment generated by the SSCL over the ten year study period rises from 3,069 jobs in year one to a peak of 9,390 jobs in year four and settles to 5,132 jobs in the tenth year. The RDN estimates suggest that the stabilized regional employment attributable to the SSCL at full operation will be approximately 3,200 direct and 2,500 indirect jobs, yielding a total of 5,700.

The short term impact of the SSCL generated employment on the 18 county North Central Texas labor market is nominal. As noted in Section III of this report, even the peak year four SSCL employment effects account for less than one-half of one percent of labor demand in this region. Further, the general impacts of SSCL direct and indirect employment are equally small for the nine-county ROI. The figures are demonstrated in Table 7 under the assumption that year one of the SSCL construction is currently underway.

TABLE 7: SSCL EMPLOYMENT WITHIN THE REGIONAL LABOR MARKET
(in thousands)

	YEAR									
LOCATION	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
NCT(18 counties)	2221	2288	2356	2424	2492	2560	2628	2695	2763	2831
ROI(9 counties)	2005	2066	2128	2189	2250	2311	2373	2434	2495	2556
SSCL	3069	6348	8713	9390	8011	6991	6327	7093	5132	4215
AS % OF NCT	0.14%	0.28%	0.37%	0.39%	0.32%	0.27%	0.24%	0.26%	0.19%	0.15%

Even at the county level of analysis, the general impacts of SSCL direct and indirect employment are negligible except in Ellis. Ellis County, where the SSCL is situated, is a small local labor market receiving the full benefits of all direct and a disproportionately large share of all indirect SSCL employment. The county level impacts of SSCL indirect employment were estimated by RDN, Inc., for all but McClennan within the nine-county ROI. Their estimates, along with forecasted total county employment figures are presented in Table 8 for the peak year four, assumed to be 1995.

TABLE 8: ROI COUNTY LEVEL EMPLOYMENT

COUNTY	TOTAL EMPLOYMENT (1995)	SSCL INDIRECT EMPLOYMENT (Year Four)
Dallas	1,475,274	2,994
Ellis	25,670	273
Hill	6,482	46
Johnson	23,679	169
Kaufman	12,462	82
Navarro	15,202	67
Rockwall	6,233	37
Tarrant	593,199	1,829

The employment effects, then, of the SSCL on the various local and regional labor markets are significant only at the occupational levels of analysis during the initial ten years of construction and operation. The sole exception to this is in Ellis county, the SSCL's physical location. The occupations most significantly affected by the SSCL are managers, secretaries, engineers and technicians. As mentioned previously, these occupations are already in high demand in this region and the SSCL promises to exert additional pressures of some consequence.

All of the SSCL direct and indirect employment are provided in Dbase disk, as documented in Appendix B to this report.

SECTION V: NORTH CENTRAL TEXAS EMPLOYERS

Over 9,500 North Central Texas firms likely to employ workers in occupations significantly affected by the event of the SSCL were identified for this project. The identified firms include all regional employers of 10 or more as represented in the 1991 Zeller and Letica databases, which are made available to local QWFP efforts through SOICC.

Table 9: Occupational Selections

OES Code	Title
22126	Electrical Engineers
22135	Mechanical Engineers
22132	Safety Engineers
22121	Civil Engineers
22199	Other Engineers
22502	Civil Engineering Technicians
22505	Electrical Engineering Technicians
22511	Mechanical Engineering Technicians
22514	Drafters
22599	Other Technicians
24102	Physicists
24111	Geologists
24199	Other Physical Scientists
25102	Systems Analysts, EDP
25104	Computer Programmers/Aides

The covered employers were identified on a very narrow range of occupations affected by the SSCL, as detailed in Table 9, in an effort to provide the most exact targeting possible. The OES codes for these occupations were processed through standard industrial to occupation transformation matrices, yielding a total of 21 two-digit SIC codes upon which the employer lists were developed. The specific SIC codes used are listed in Table 10.

Table 10: Industrial Selections

SIC Code	Title
13	Oil and Gas Extraction
15	General Building Contractors
16	Heavy Construction, Ex Building
17	Special Trade Contractors
28	Chemicals and Allied Products
29	Petroleum and Coal Products
34	Fabricated Metal Products
35	Industrial Machinery and Equipment
36	Electronic and Other Electric Equipment
37	Transportation Equipment
48	Communications
49	Electric, Gas and Sanitary Services
50	Wholesale Trade - Durable Goods
63	Insurance Carriers
73	Business Services
76	Miscellaneous Repair Services
82	Educational Services
87	Engineering and Management Services
91-93	Public Administration

The employer data contains firm name, location, phone number, employer and SIC code information and is formatted in Dbase disk files. Appendix C lists employers within the 18-county SSC-impact area by county location and SIC codes of employers of 100 or more.

SECTION VI: VOCATIONAL EDUCATION PROGRAM COMPLETERS

Statewide community college and technical institute vocational education program completers were inventoried to help assess the training resources and needs as the SSCL impacts the NCT labor markets. The program completer data was provided by the Texas Higher Education Coordinating Board for the 1989 program year, which is the most recent information available. The program completers are inventoried by community college district or technical institute as well as by classification of instructional program (CIP) codes. The inventories are provided in standard Dbase disk files in the labor supply module of the SSC version of INTERLINK's LMIS.

There are a total of 57 institutions, including community college districts, technical institute campuses and extensions, in this database. Only five of the districts are located within the 16 county North Central Texas region covered by INTERLINK's existing LMIS databases. This inventory provides the most current information available of the range and size of the many occupationally-specific vocational education programs operating throughout the State's community college and technical institute system.

The reader is referred to the next section of this report regarding the various linkages provided between this data and labor demand information through the SSC Technical Training Project version of INTERLINK's LMIS. The details of the database construction are outlined in Appendix E.

SECTION VII: INTERLINK's LMIS FOR THE SSC TECHNICAL TRAINING PROJECT

INTERLINK's PC-based LMIS software shell was adapted to the needs of the SSC Technical Training Project data to maximize both the access to and linkage between the labor demand and supply data developed in this study. Specifically, the Labor Demand report screens were reconfigured to display the additional forecast years required by the project, and the Labor Supply modules were completely reconfigured to address the statewide, post-secondary program data. The Occupational Evaluation module displays also were adapted to accommodate these changes in both the labor demand and supply data.

The SSC Project version of INTERLINK's LMIS houses the labor demand data developed for the 18-county combined North Central Texas and SSC regions as discussed in Section II of this report. The county-level data with the exceptions of Dallas and Tarrant, as well as the SSCL direct and indirect employment files, are not processed to an adequate level of SIC or OES code detail to benefit from incorporation into this software. Instead, they are provided in separate Dbase disk files. All of the labor supply data developed in this project is fully incorporated into the revised LMIS software.

One of the greatest advantages of using the LMIS software is the direct crosswalk provided between the labor demand and supply data in the Occupational Evaluation module. The module links the occupational level data to both directly and indirectly related vocational education program completer figures. Further, it provides additional detail on the training, wage and replacement characteristics of each occupation inventoried in the labor demand modules.

There are a variety of other advantages to incorporating this data into INTERLINK's LMIS software, such as Dictionary of Occupational Title (DOT) crosswalks and inventories of the linkages between industries and occupations. These features are fully outlined under separate cover in INTERLINK's LMIS Version 1.2, Users' Manual. Further, a supplement to this manual is provided in Appendix D to this report regarding specific changes in the system for the SSC Technical Training Project version.

SECTION VIII: CONCLUSIONS

The LMI resources developed in this project provide a strong foundation for examining the impacts of the SSCL on the training and employment needs of the North Central Texas region. The direct and indirect effects of the SSCL are analyzed to the smallest level of occupational detail feasible. Regional labor demand estimates and forecasts were updated and expanded, county level demand data was developed, statewide vocational education programs were inventoried and lists of affected regional employers were extracted. All of the data developed in this project is available in standard Dbase disk files, formatted to be compatible with other LMI resources such as INTERLINK's LMIS. Further, a custom version of INTERLINK's PC-based LMIS software was developed for the SSC Technical Training Project to provide the greatest access to and linkage between the labor demand and supply data developed in this study.

Future efforts to develop additional information resources relevant to the event of the SSCL must focus upon comparative analyses of similar projects, such as Fermilab and others, to provide more detail to the products developed in this project. Further, regional LMI data, such as the labor demand estimates and forecasts, will need regular monitoring and updating to truly reflect the local conditions surrounding the SSCL.

Appendix A

SSCL Employment Documents

I. Direct Employment Documents

a. SSCL Staffing Pattern Summaries

SSCL STAFFING PATTERNS

OES CODE	JOB TITLE		#	TOTALS
MANAGERS				47
DEPT/FUNC MANAGERS				27
13002	MANAGER	ACCT	1	
13002	MANAGER	INTERNAL AUDITING	1	
13002	MANAGER	FINANCE	1	
13005	DIRECTOR	MINORITY AFFAIRS	1	
13005	MANAGER	PERSONNEL ASST	1	
13005	MANAGER	PERSONNEL EMP	1	
13005	MANAGER	PERSONNEL	1	
13008	MANAGER	COST/ESTIMATING	1	
13008	MANAGER	COST/SCHEDULING	1	
13008	MANAGER	PROCUREMENT	1	
13008	MANAGER	PURCHASING	1	
13008	MANAGER	CONTRACT ADMINISTRA	3	
13014	DEPUTY HEAD	BUSINESS SERVICES	1	
13014	MANAGER	BUSINESS ASST	3	
13017	MANAGER	COMPUTER SERV	1	
19999	MANAGER	TECH TRANS	1	
19999	MANAGER	MIS DIV	1	
19999	MANAGER	NETWORKING SYS	2	
19999	MANAGER	TECH INFO	1	
19999	MANAGER	VISUAL MEDIA SERV	2	
19999	MANAGER	SOFTWARE SYS	1	
OTHER MANAGERS				1
15000	DIRECTOR	MEDICAL SERVICES	1	
GENERAL MANAGERS				19
19005	DIRECTOR	LABORATORY	1	
19005	DIRECTOR	ASSOC	17	
19005	MANAGER	GENERAL	1	
FINANCIAL ADMIN				23
21114	ACCOUNTANT	JR/SR	9	
21114	SUPERVISOR	ACCT	1	
21117	ANALYST	BUDGET JR/SR	11	
21117	COORDINATOR	BUDGET	1	
21117	OFFICER	BUDGET	1	
PURCHASING				28
21308	ADMINISTRATOR	PURCHASING JR/SR	5	
21308	ADMINISTRATOR	CONTRACT JR/SR	23	
PERSONNEL/HR				15
21511	ADMINISTRATOR	PERSONNEL JR/SR	11	
21511	ADMINISTRATOR	EEO	1	
21511	SPECIALIST	PERSONNEL	3	
OTHER ADMIN				50
21999	ADMIN ASST	I/II	14	
21999	ADMINISTRATOR	CO-OP JR	2	
21999	ADMINISTRATOR	RECORDS	1	
21999	COORDINATOR	SAFETY I/II	1	
21999	EXECUTIVE	ASST	5	
21999	PLANNER	SCHEDULE JR/SR	7	

SSCL STAFFING PATTERNS

OES CODE	JOB TITLE		#	TOTALS
21999	STAFF	ASST	8	
28000	LEGAL COUNSEL	CHIEF	1	
31502	ADMINISTRATOR	LIBRARY	1	
31502	LIBRARIAN	SERIALS/ASST	2	
31502	LIBRARY	PUBL SERV HEAD	2	
31511	ARCHIVIST		1	
32502	ADMINISTRATOR	NURSE	1	
34002	EDITOR	JR/SR	2	
34008	PR	REP	1	
34008	SPECIALIST	PUBLIC INFO	1	
CLERICAL AND OTHER SUPPORT				101
55100	SECRETARY	I/II/III	56	
55300	CLERK	I/II/III/SR	38	
56000	OPERATOR	DATA ENTRYI/II/III	5	
58000	STOREKEEPER		1	
97000	DRIVER		1	
PROFESSIONAL				338
ENGINEERS				163
22100	ENGINEER	SAFETY	6	
22100	ENGINEER	I/II/III/SR/ASSOC/I	157	
SCIENTISTS				127
24000	COLLABORATOR	GUEST	11	
24000	SCIENTIST	APPL/ASSOCI/II/III	29	
24000	SCIENTIST	GUEST	11	
24100	RESEARCH	ASSOC SR	1	
24102	PHYSICIST	APPL I/II/STAFF	58	
24102	PHYSICIST	ENGINEERINI/II/III	17	
COMPUTER SPECIALISTS				43
25102	ANALYST	SYSTEMS I/II/III	15	
25105	PROGRAMMER	I/II/III	18	
25108	ANALYST	COMPUTER	3	
25199	SPECIALIST	COMPUTER JR/SR	4	
25199	SUPERVISOR	TECH COMP OPER	1	
25999	ILLUSTRATOR	COMPUTER GRAPHICS	2	
OTHER				5
25302	SPECIALIST	OPERATIONS	5	
TECHNICAL				75
22500	AIDE	TECHNICAL JR/SR	11	
22500	SPECIALIST	TECHNICAL	19	
22500	TECH	CO-OP SOPH/JR/S	10	
22500	TECHNICIAN	I/II/LAB	18	
22502	DESIGNER	CIVIL	3	
22514	DESIGNER		9	
22514	DRAFTER	JR/SR	3	
22514	DRAFTER	DESIGN JR/SR	2	

b. PB/MK Staffing Pattern Summaries

PBMK STAFFING PATTERNS

OES CODE	JOB TITLE			#	TOTALS
MANAGERS					105
DEPT/FUNC MGRS					15
13005	MANAGER	HUMAN RESOURCES		2	
13005	MANAGER	IND RELATIONS		1	
13005	MANAGER	PERSONNEL		1	
13005	MANAGER	SYS INFO		2	
13008	MANAGER	PROCUREMENT		1	
13014	MANAGER	CONTRACT/SUBCONTRACT		1	
13014	MANAGER	BUSINESS	SR	2	
13014	MANAGER	ADMINISTRATION		1	
13017	MANAGER	ENGINEER	DESIGN/GEOTECHN	2	
13017	MANAGER	ENGINEER	CONSTRUCTION	1	
13017	MANAGER	ENGINEER	ELECTRICAL	1	
OTHER MANAGERS					1
15008	MANAGER	HEALTH SERV		1	
GENERAL MANAGERS					5
19005	GEN MANAGER	ENGINEER		2	
19005	GEN SUPERINTENDENT			1	
19005	GEN MANAGER	PROJECT		1	
19005	GEN MANAGER	OPERATIONS		1	
OTHER MANAGERS, NEC					20
19999	VP	SR		4	
19999	MANAGER	SURVEY		1	
19999	MANAGER	DOCUMENT CONTROL		1	
19999	MANAGER	ESTIMATING		2	
19999	MANAGER	PROJECT	DEP/SR/ASST	9	
19999	MANAGER	PARTICIPATION OFFICE		1	
19999	MANAGER	SAFETY		2	
FINANCIAL ADMIN					5
21100	PAYMASTER	ASST		1	
21100	SUPERVISOR	PAYROLL		1	
21114	ACCOUNTANT	ASSOC/CHIEF		3	
PURCHASING					9
21300	BUYER			1	
21308	ADMINISTRATOR	SUBCONTRACT/CONI/II/III/SR		5	
21308	ADMIN AIDE	PURCHASING		1	
21308	AGENT	PURCHASING	SR	2	
PERSONNEL/HR					5
21508	SUPERVISOR	PERSONNEL		1	
21508	PERSONNEL	ASST	I	3	
21508	RECRUITER			1	
OTHER ADMIN					26
21902	ESTIMATOR	LEAD/PRINCIPAL/STAFF		3	
21999	SPECIALIST	CHANGE CONTROL		1	
21999	COORDINATOR	REPORTS		1	
21999	ADMINISTRATOR	PROJECT	I	1	
21999	COORDINATOR	FACILITIES		2	
21999	PLANNER	FACILITIES		2	
21999	REP	COMM RELATIONS		1	

PBMK STAFFING PATTERNS

OES CODE	JOB TITLE			#	TOTALS
21999	SUPERVISOR	SAFETY		2	
21999	SUPERVISOR	QC		1	
21999	SUPERVISOR	PLANNER	SR	1	
21999	SPECIALIST	PROPERTY CONTROL		1	
21999	ADMIN ASST	I/II/SR		9	
21999	SUPERVISOR	RECORDS/QA		1	
CLERICAL AND OTHER SUPPORT					19
55199	SECRETARY	I/EXEC/SR		9	
55305	RECEPTIONIST	II		3	
55311	WORD PROCESSOR	II/LEAD		3	
55347	CLERK	II/III/SR		4	
PROFESSIONAL/TECHNICAL					69
ENGINEERS					46
22100	ENGINEER	PROJ CONTOL	III/STAFF	5	
22100	ENGINEER	I/II/SR/LEAD		10	
22100	SUPERVISOR	ENGINEER	SR	6	
22121	SUPERVISOR	ENGINEER	CIVIL	2	
22121	ENGINEER	CIVIL	SR	1	
22135	ENGINEER	MECHANICAL	SR	1	
22199	ENGINEER	DESIGN	SR	1	
22199	ENGINEER	SCHEDULING	SR	2	
22199	ENGINEER	SURV	II	1	
22199	SUPERVISOR	STRUC ENGINEER	SUPERVISOR	1	
22199	ENGINEER	STRUCTURAL	LEAD/SR	2	
22199	ENGINEER	SPEC		1	
22199	ENGINEER	COST	I/II/III	2	
22199	ENGINEER	QA	III/STAFF	4	
22199	ENGINEER	GEOTECHNICAL		1	
22199	ENGINEER	CONSTRUCTION	III/STAFF/PRINC	6	
TECHNICIANS					7
22500	AIDE	ENGINEER	III	2	
22514	SUPERVISOR	OPERATOR	CADD	1	
22514	OPERATOR	CADD	SR	1	
22514	SUPERVISOR	DRAFTER		1	
22514	DESIGNER	SR		1	
22514	TECHNICIAN	DESIGN	SR	1	
SCIENTISTS					4
24111	GEOLOGIST	SR		1	
24111	SUPERVISOR	GEOLOGIST	SR	1	
24199	SPECIALIST	ENVIRONMENTAL		1	
24308	BIOLOGIST	SR		1	
COMPUTER SPECIALISTS					5
25102	SPECIALIST	SYSTEMS		1	
25102	ANALYST	SYSTEMS	I/SR	3	
25105	ANALYST	PROGRAMMER	LEAD	1	

c. SSCL Project Management Office Cost Report

06/10/91

SSC BASELINE COST ESTIMATE
SUMMARY HOURS & FTE'S BY CRAFT CODE

CRAFT CODE	CRAFT DESCRIPTION	TOTAL LABOR HOURS	TOTAL FTE'S
		4,306,305	2,430.1
C01	Conveying Model OB1	6,408	3.6
**DR	Drafter	4,500	2.5
E01	Electrical Model OB1	152,866	86.2
**E1	Sr. Analyst/Administrative Pers	2,142,170	1,208.9
**E2	Exempt Staff Engineers/Scienti	7,471,891	4,216.6
**E3	Exempt Staff/Management	1,500,958	847.0
**EN	Engineer w/Adders (Mech. and E	129,171	72.8
F01	Foundation Model AB1	7,594	4.2
F02	Foundation Model AUD	1,216	.6
F03	Foundation Model ES1	167	.0
F04	Foundation Model HH1	2,452	1.3
F05	FOUNDATION MODEL HH2	242	.1
F06	FOUNDATION MODEL HH3	292	.1
F07	Foundation Model HH4	2,209	1.2
F08	Foundation Model HH5	328	.1
F09	FOUNDATION MODEL HH6	831	.4
**F1	Factory Support (Part Handling	24,246	13.6
F10	FOUNDATION MODEL HH7	532	.3
F11	FOUNDATION MODEL HH8	271	.1
F12	Foundation Model HW1	3,294	1.8
F13	Foundation Model HW3	2,227	1.2
F14	Foundation Model HW4	0	.0
F15	Foundation Model HW5	0	.0
F16	Foundation Model HW6	767	.4
F17	Foundation Model HW7	3,120	1.7
F18	Foundation Model OB1	9,056	5.1
F19	Foundation Model OB2	1,142	.6
**F1N	Factory Support (Coord, Schedu	2,591,406	1,462.4
F20	Foundation Model SB1	1,002	.5

** Denotes Non-Davis Bacon Jobs

CRAFT CODE	CRAFT DESCRIPTION	TOTAL LABOR HOURS	TOTAL FTE'S
F22	Foundation Model UB1	1,945	1.0
F23	FOUNDATION MODEL AB2	5,014	2.8
I01	Interior Finish Model AB1	8,132	4.5
I03	Interior Finish Model AUD	1,870	1.0
I04	Interior Finish Model ES1	997	.5
I05	Interior Finish Model HH1	532	.3
I06		1,882	1.0
I07	Interior Finish Model HH3	1,979	1.1
I08	Interior Finish Model HW2	23,673	13.3
I09	Interior Finish Model HW3	0	.0
I10	Interior Finish Model HW5	2,232	1.2
I11	Interior Finish Model HW6	8,359	4.7
I12	Interior Finish Model OB1	28,227	15.9
I13	Interior Finish Model OB2	17,952	10.1
I14	Interior Finish Model SB1	28,928	16.3
I15	Interior Finish Model SB2	266	.1
I16	Interior Finish Model UB1	3,919	2.2
I18	INTERIOR FINISH MODEL AB2	4,543	2.5
****IE**	**Electrician Crew**	**793,867**	**448.0**
****IG**	**Rigging Crew**	**29,004**	**16.3**
****IM**	**Magnet Interconnect Crew**	**158,079**	**89.2**
****IP**	**Pipefitter Crew**	**159,220**	**89.8**
M03	MECH. MODEL M6	628	.3
M04	Mech. Model AB4	2,442	1.3
M05	Mech. Model AUD	48,270	27.2
M06	Mech. Model ES1	689	.3
M07	Mech. Model HH1	1,224	.6
M09	Mech. Model HW1	10,903	6.1
M10	Mech. Model HW2	19,816	11.1
M11	Mech. Model HW3	0	.0
M12	Mech. Model OB1	27,255	15.3
M13	Mech. Model OB2	16,940	9.5
M14	Mech. Model SB1	0	.0

**** Denotes Non-Davis Bacon Jobs**

CRAFT CODE	CRAFT DESCRIPTION	TOTAL LABOR HOURS	TOTAL FTE'S
M16	Mech. Model UB1	9,459	5.3
M17	MECH. MODEL M5	660	.3
M18	MECH. MODEL OB5	26,973	15.2
M19	MECH. MODEL HW4	0	.0
M20	MECH. MODEL L1	1,160	.6
M21	MECH. MODEL L2	3,073	1.7
M22	MECH. MODEL L3	765	.4
M23	MECH. MODEL M1	3,970	2.2
M24	MECH. MODEL M4	9,583	5.4
M25	MECH. MODEL H1	13,897	7.8
M26	MECH. MODEL H4	530	.2
M27	MECH. MODEL OB3	0	.0
M28	MECH. MODEL OB3	6,429	3.6
M29		0	.0
**MI	Magnet Installation Crew	378,001	213.3
MTC	MAIN TUNNEL CONSTRUCTION CRE	228,216	128.7
**N1	Non Exempt Analyst/Clerks	2,143,056	1,209.4
**N2	Non Exempt Clerical Support	4,321,915	2,439.0
**N3	Non Exempt Technicians/Adminis	4,130,562	2,331.0
**PH	Physicist w/Adders	6,500	3.6
R01	Roof Model HH1	3,891	2.1
R02	Roof Model HW1	24,270	13.6
R03	Roof Model OB1	9,965	5.6
R04		329	.1
S01	Specialities Model HW1	6,731	3.7
S06	SPECIALITIES MODEL HH2	740	.4
S07	Specialities Model HH4	1,022	.5
S08		161	.0
**S1	Shops (Avg. Capability Machinis	183,446	103.5
**S1N	Professional Specialists	656,362	370.4
**S2	Shops (Specialized, Precision,	385,162	217.3
**S2N	Engineering, Managerial	919,836	519.0
SB02	Substruct. Model AB2	19,514	11.0

** Denotes Non-Davis Bacon Jobs

CRAFT CODE	CRAFT DESCRIPTION	TOTAL LABOR HOURS	TOTAL FTE'S
SB03	Substruct. Model AUD	625	.3
SB04	Substruct. Model HH1	4,810	2.7
SB05	Substruct. Model HW1	11,560	6.5
SB06	Substruct. Model OB1	14,766	8.3
SB08	Substruct. Model TH2	1,352	.7
SB09	SUBSTRUCT. MODEL AB4	12,829	7.2
SB11	SUBSTRUCT. MODEL SB1	943	.5
**SEN	**Software Engineer w/Adders**	**519,978**	**293.4**
SK01	Ext. Skin Model AB1	43,325	24.4
SK04	Ext. Skin Model ES1	506	.2
SK05	Ext. Skin Model HH1	17,298	9.7
SK06	Ext. Skin Model HW1	21,852	12.3
SK07	Ext. Skin Model HW2	6,275	3.5
SK08	Ext. Skin Model HW3	5,075	2.8
SK09	Ext. Skin Model OB1	71,052	40.0
SK11	EXT. SKIN MODEL SB1	14,352	8.0
SO11		147	.0
SO12		1,272	.7
SP01	Superstr. Model AB3	3,252	1.8
SP02	Superstr. Model HH1	1,009	.5
SP03	SUPERSTR. MODEL HH2	1,053	.5
SP04	SUPERSTR. MODEL HH3	1,309	.7
SP05	Superstr. Model HH4	8,022	4.5
SP06	Superstr. Model HW1	2,249	1.2
SP07	Superstr. Model HW3	5,599	3.1
SP08	Superstr. Model HW5	0	.0
SP09	Superstr. Model HW6	0	.0
SP10	Superstr. Model HW7	6,279	3.5
SP11	Superstr. Model OB1	22,403	12.6
SP13	SUPERSTR. MODEL AB1	5,477	3.0
SP14	SUPERSTR. MODEL AB4	8,530	4.8
ST01	Sitework Model AB2	5,695	3.2
ST02	Sitework Model AB1	201	.1

** Denotes Non-Davis Bacon Jobs

CRAFT CODE	CRAFT DESCRIPTION	TOTAL LABOR HOURS	TOTAL FTE'S
ST04		417	.2
ST05	Sitework Model CSS	679	.3
ST06	Sitework Model ES1	408	.2
ST07	Sitework Model HH1	1,280	.7
ST08	Sitework Model HW1	1,324	.7
ST09	Sitework Model HW2	1,487	.8
ST10	Sitework Model HW3	0	.0
ST11	Sitework Model HW4	0	.0
ST12	Sitework Model HW5	2,052	1.1
ST13	Sitework Model HW6	1,600	.9
ST14	Sitework Model OB1	2,196	1.2
ST15	Sitework Model OB3	1,198	.6
ST16	Sitework Model OB4	505	.2
ST17	Sitework Model SB1	0	.0
ST19	Sitework Model UB1	3,120	1.7
ST20	SITEWORK MODEL AB4	3,438	1.9
ST22	SITEWORK MODEL AUD	302	.1
**T1	Tech (Assy, Tests, Etc), Rel Uns	524,841	296.1
**T1N	Tech (Assy, Tests, Etc), Rel Uns	5,634,326	3,179.6
**T2	Tech (Assy, Tests, Etc), Exper/s	1,130,850	638.1
**T2N	Tech (Assy, Tests, Etc), Exper/s	3,169,979	1,788.9
ZA501	ARCHITECTURAL	2,469	1.3
ZAR05	WATER PROOFING	7,356	4.1
ZA506	ROOF INSULATION	217	.1
ZA507	ROOFING/WATERPROOFING	500	.2
ZA508	METAL ROOFING & SIDING	436	.2
ZA509	DOORS - SERVICE	209	.1
ZA510	CURTAIN WALLS	9	.0
ZA513	ARCHITERCTURAL SHEET METAL WOR	9	.0
ZAR25	COMPOSITE-UTILITY BLDGS	17,119	9.6
ZC001	CONCRETE COMPOSITE	88,619	50.0
ZC002	FORMWORK	1,265	.7
ZC004	FORMS WITH CRANE USAGE	94,250	53.1

** Denotes Non-Davis Bacon Jobs

CRAFT CODE	CRAFT DESCRIPTION	TOTAL LABOR HOURS	TOTAL FTE'S
ZC005	FORMS - Q-DECK	653	.3
ZC007	REINFORCING STEEL (40% OF 15T C	224,992	126.9
ZC011	PLACE WWF	6,765	3.8
ZC012	EMBEDDED METALS	4,043	2.2
ZC015	PLACE CONCRETE-W/PUMP	98,933	55.8
ZC017	PLACE CONC NEAR GRD AVG. EQUIPM	17,957	10.1
ZC018	PLACE CONC ABOVE GRD AVG. EQUIP	67,678	38.1
ZC019	SLAB FINISHING WITH MACHINE	14,843	8.3
ZC024	PRECAST ERECTION	95,388	53.8
ZC025	SLIPFORMING	7,809	4.4
ZC026	FORM-EXP HALL ROOF SLAB	22,719	12.8
ZEL01	ELECTRICAL INSTALLATION	587,052	331.2
ZEL02	ELECTRICAL INSTALLATION	1,129,749	637.5
ZEL03	CONCRETE - ELECTRICAL	17,160	9.6
ZEL04	EXCAVATION - TRENCHING/ELECTRI	36,854	20.7
ZME01	STRUCTURAL STEEL, 50TN CRANE/	33,646	18.9
ZME03	STRUCTURAL STEEL, 90TN CRANE/1	10,244	5.7
ZME05	MISC METAL, NO WELDER, 25 TN C	18	.0
ZME07	MISC. METAL, WELDER AND 25 TN	23,670	13.3
ZME17	HOISTING CREW PC SHIELDING PLA	1,080	.6
ZMI01	ROCK BOLTS @ EXCAVATED BENCHES	5,587	3.1
ZMI12	SHOTCRETE	13,386	7.5
ZMI19	SOFT GRD & COLLARING (2SH/DY-10	48,801	27.5
ZMI20	DRILLING CREW #1 (2SH/DY-10HR/D	7,510	4.2
ZMI21	SLASHING EXC & SPT (2S/DY-10HR	22,451	12.6
ZMI23	OUTSIDE SPT CREW #3 (2S/DY-10H	15,401	8.6
ZMI27	HEADING CREW #5 (2SHT/DY-10HR/	13,354	7.5
ZMI28	HEADING CREW #6 (1SHT/DY-10HR/	3,274	1.8
ZPI01	PIPING INSTALLATION	261,409	147.5
ZPI02	PLUMBING INSTALLATION	17,726	10.0
ZPI03	SHEET METAL INSTALLATION	62,649	35.3
ZPI04	FIRE SPRINKLER INSTALLATION	1,420	.8
ZPI10	YARD PIPING INTERCONN PIPE TES	759	.4

** Denotes Non-Davis Bacon Jobs

CRAFT CODE	CRAFT DESCRIPTION	TOTAL LABOR HOURS	TOTAL FTE'S
ZPI11	YARD PIPING CONC PIPE TUNNEL	11,319	6.3
ZPI13	SHEET METAL U/G BLDG. & TUNNEL	12,896	7.2
ZS001	MISC. SITE LABOR	272,236	153.6
ZS008	STRIP TOPSOIL	3,620	2.0
ZS009	PLACE TOP SOIL FROM STACK	1,536	.8
ZS026	RIP-RAP-UNGROUTED	21,015	11.8
ZS029	DEWATERING @ 200 GPM - 12000 G	9,964	5.6
ZS031	FENCING	1,676	.9
ZS033	PLACE AGGREGATE BASE COURSE	2,112	1.1
ZS039	HYDRO SEEDING	3,406	1.9
ZS051	MASS FILL W/COMPACTION (GRADER	5,043	2.8
ZS054	STRUCTURAL EXCAV. (MASS-3/4CY E	10	.0
ZS057	EXCAVATION - 1 1/2 CY LOADER/BA	27,586	15.5
ZS080	STRUCT BACKFILL-MASS W/VIB. R	106,129	59.8
ZS081	STRUCT BACKFILL - MASS,AIR TA	3	.0
ZS089	FINE GRADE & COMPACT	230	.1
ZS095	HAULING - 5 TO 6 CY DUMPTRUCK	590	.3
ZS098	HAULING - 20 CY DUMPTRUCK	97,080	54.7
ZS106	CAISSON DRILLING 2' DIA.	17,120	9.6
ZS121	EXCAV ROCK RIPPABLE	159,572	90.0
ZS123	TIE BACK INSTALLATION	77,554	43.7
ZS125	INSTALLATION OF 12' DIA. RCP P	1,400	.7
ZS128	CAISSON INSTALLATION	12,880	7.2
		48,503,183	27,372.0

** Denotes Non-Davis Bacon Jobs

d. Davis-Bacon Act

DAVIS-BACON ACT

[Public—No. 403—74th Congress]

[S. 3303]

AN ACT

To amend the Act approved March 3, 1931, relating to the rate of wages for laborers and mechanics employed by contractors and subcontractors on public buildings.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Act entitled "An Act relating to the rate of wages for laborers and mechanics employed on public buildings of the United States and the District of Columbia by contractors or subcontractors, and for other purposes," approved March 3, 1931, is amended to read as follows:

"That the advertised specifications for every contract in excess of $2,000, to which the United States or the District of Columbia is a party, for construction, alteration, and/or repair, including painting and decorating, of public buildings or public works of the United States or the District of Columbia within the geographical limits of the States of the Union or the District of Columbia, and which requires or involves the employment of mechanics and/or laborers shall contain a provision stating the minimum wages to be paid various classes of laborers and mechanics which shall be based upon the wages that will be determined by the Secretary of Labor to be prevailing for the corresponding classes of laborers and mechanics employed on projects of a character similar to the contract work in the city, town, village, or other civil subdivision of the State in which the work is to be performed, or in the District of Columbia if the work is to be performed there; and every contract based upon these specifications shall contain a stipulation that the contractor or his subcontractor shall pay all mechanics and laborers employed directly upon the site of the work, unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment, computed at wage rates not less than those stated in the advertised specifications, regardless of any contractural relationship which may be alleged to exist between the contractor or subcontractor and such laborers and mechanics, and that the scale of wages to be paid shall be posted by the contractor in a prominent and easily accessible place at the site of the work; and the further stipulation that there may be withheld from the contractor so much of accrued payments as may be considered necessary by the contracting officer to pay to laborers and mechanics employed by the contractor or any subcontractor on the work the difference between the rates of wages required by the contract to be paid laborers and mechanics on the work and the rates of wages received by such laborers and mechanics and not refunded to the contractor, subcontractors, or their agents.

"Sec. 2. Every contract within the scope of this Act shall contain the further provision that in the event it is found by the contracting officer that any laborer or mechanic employed by the contractor or any subcontractor directly on the site of the work covered by the contract has been or is being paid a rate of wages less than the rate of wages required by the contract to be paid as aforesaid, the Government may, by written notice to the contractor, terminate his right to proceed with the work or such part of the work as to which there has been a failure to pay said required wages and to prosecute the work to completion by contract or otherwise, and the contractor and his sureties shall be liable to the Government for any excess costs occasioned the Government thereby.

"Sec. 3. (a) The Comptroller General of the United States is hereby authorized and directed to pay directly to laborers and mechanics from any accrued payments withheld under the terms of the contract any wages found to be due laborers and mechanics pursuant to this Act; and the Comptroller General of the United States is further authorized and is directed to distribute

a list to all departments of the Government giving the names of persons or firms whom he has found to have disregarded their obligations to employees and subcontractors. No contract shall be awarded to the persons or firms appearing on this list or to any firm, corporation, partnership, or association in which such persons or firms have an interest until three years have elapsed from the date of publication of the list containing the names of such persons or firms.

"(b) If the accrued payments withheld under the terms of the contract, as aforesaid, are insufficient to reimburse all the laborers and mechanics with respect to whom there has been a failure to pay the wages required pursuant to this Act, such laborers and mechanics shall have the right of action and/or of intervention against the contractor and his sureties conferred by law upon persons furnishing labor or materials, and in such proceedings it shall be no defense that such laborers and mechanics accepted or agreed to accept less than the required rate of wages or voluntarily made refunds.

"Sec. 4. This Act shall not be construed to supersede or impair any authority otherwise granted by Federal law to provide for the establishment of specific wage rates.

"Sec. 5. This Act shall take effect thirty days after its passage, but shall not affect any contract then existing or any contract that may thereafter be entered into pursuant to invitations for bids that are outstanding at the time of the passage of this Act.

"Sec. 6. In the event of a national emergency the President is authorized to suspend the provisions of this Act.

"Sec. 7. The funds appropriated and made available by the Emergency Relief Appropriation Act of 1935 (Public Resolution Numbered 11, 74th Congress), are hereby made available for the fiscal year ending June 30, 1936, to the Department of Labor for expenses of the administration of this Act."

Approved, August 30, 1935.

AMENDMENT

[Public—No. 633—76th Congress]

[Chapter 373—3d Session]

[S. 3650]

AN ACT

To require the payment of prevailing rates of wages on Federal public works in Alaska and Hawaii.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 1 of the Act entitled "An Act relating to the rate of wages for laborers and mechanics employed on public buildings of the United States and the District of Columbia by contractors and subcontractors, and for other purposes," approved March 3, 1931 (46 Stat. 1494), as amended, is further amended by striking out the words "States of the Union or the District of Columbia" and inserting in lieu thereof "States of the Union, the Territory of Alaska, the Territory of Hawaii, or the District of Columbia"; and by striking out the words "or other civil subdivision of the State" and inserting in lieu thereof "or other civil subdivision of the State, or the Territory of Alaska or the Territory of Hawaii".

Sec. 2. The amendments made by this Act shall take effect on the thirtieth day after the date of enactment of this Act, but shall not affect any contract in existence on such effective date or made thereafter pursuant to invitations for bids outstanding on the date of enactment of this Act.

Approved, June 15, 1940.

[40 U. S. Code, sec. 276a–7]

The fact that any contract authorized by any Act is entered into without regard to section 5 of Title 41, or upon a cost-plus-a-fixed-fee basis or otherwise without advertising for proposals, shall not be construed to render inapplicable the provisions of sections 276a to 276a–5 of this title, if such Act would otherwise be applicable to such contract. March 23, 1941, 12 noon, ch. 26, 55 Stat. 53; Aug. 21, 1941, ch. 395, 55 Stat. 658.

AMENDMENT

[Public—No. 88-349—88th Congress]

July 2, 1964

[H.R. 6041]

AN ACT

To amend the prevailing wage section of the Davis-Bacon Act, as amended; and related sections of the Federal Airport Act, as amended; and the National Housing Act, as amended.

Federal construction contract laborers. Fringe benefits. 49 Stat. 1011.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 1 of the Act of March 3, 1931, as amended (46 Stat. 1494, as amended; 40 U.S.C. 276a), is hereby amended by designating the language of the present section as subsection (a) and by adding at the end thereof the following new subsection (b):

78 STAT. 238. 78 STAT. 239.

"(b) As used in this Act the term 'wages', 'scale of wages', 'wage rates', 'minimum wages', and 'prevailing wages' shall include—

"(1) the basic hourly rate of pay; and

"(2) the amount of—

Trustee contribution.

"(A) the rate of contribution irrevocably made by a contractor or subcontractor to a trustee or to a third person pursuant to a fund, plan, or program; and

Benefit costs.

"(B) the rate of costs to the contractor or subcontractor which may be reasonably anticipated in providing benefits to laborers and mechanics pursuant to an enforcible commitment to carry out a financially responsible plan or program which was communicated in writing to the laborers and mechanics affected,

for medical or hospital care, pensions on retirement or death, compensation for injuries or illness resulting from occupational activity, or insurance to provide any of the foregoing, for unemployment benefits, life insurance, disability and sickness insurance, or accident insurance, for vacation and holiday pay, for defraying costs of apprenticeship or other similar programs, or for other bona fide fringe benefits, but only where the contractor or subcontractor is not required by other Federal, State, or local law to provide any such benefits:

Payor obligations, method of payment.

Provided, That the obligation of a contractor or subcontractor to make payment in accordance with the prevailing wage determinations of the Secretary of Labor, insofar as this Act and other Acts incorporating this Act by reference are concerned may be discharged by the making of payments in cash, by the making of contributions of a type referred to in paragraph (2)(A), or by the assumption of an enforcible commitment to bear the costs of a plan or program of a type referred to in paragraph (2)(B), or any combination thereof, where the aggregate of any such payments, contributions, and costs is not less than the rate of pay described in paragraph (1) plus the amount referred to in paragraph (2).

Overtime pay computation, exclusion of benefit costs.

"In determining the overtime pay to which the laborer or mechanic is entitled under any Federal law, his regular or basic hourly rate of pay (or other alternative rate upon which premium rate of overtime compensation is computed) shall be deemed to be the rate computed under paragraph (1), except that where the amount of payments, contributions, or costs incurred with respect to him exceeds the prevailing wage applicable to him under this Act, such regular or basic hourly rate of pay (or such other alternative rate) shall be arrived at by deducting from the amount of payments, contributions, or costs actually incurred with respect to him, the amount of contributions or costs of the types described in paragraph (2) actually incurred with respect to him, or the amount determined under paragraph (2) but not actually paid, whichever amount is the greater."

Airport projects. 63 Stat. 480. 49 Stat. 1011.

SEC. 2. Section 15(b) of the Federal Airport Act, as amended (60 Stat. 178, as amended; 49 U.S.C. 1114(b)), is hereby amended by inserting the words "in accordance with the Davis-Bacon Act, as amended (40 U.S.C. 276a—276a-5)" after the words "Secretary of Labor,".

Housing projects. 53 Stat. 807; 73 Stat. 667. 12 USC 1715c.

SEC. 3. Section 212(a) of the National Housing Act, as amended (53 Stat. 208, as amended; 12 U.S.C. 1715(c)), is hereby amended by inserting the words "in accordance with the Davis-Bacon Act, as amended (40 U.S.C. 276a—276a-5)," after the words "Secretary of Labor,".

Effective date. 78 STAT. 239. 78 STAT. 240.

SEC. 4. The amendments made by this Act shall take effect on the ninetieth day after the date of enactment of this Act, but shall not affect any contract in existence on such effective date or made thereafter pursuant to invitations for bids outstanding on such effective date and the rate of payments specified by section 1(b)(2) of the Act of March 3, 1931, as amended by this Act, shall, during a period of two hundred and seventy days after such effective date, become effective only in those cases and reasonable classes of cases as the Secretary of Labor, acting as rapidly as practicable to make such rates of payments fully effective, shall by rule or regulation provide.

U.S. GOVERNMENT PRINTING OFFICE: 1964 O—314-439

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II. Indirect Employment Documents

a. Texas Input/Output Model Sectoral Employment

TEXAS I/O MODEL EXTRACTIONS

SECTOR NAME	NO.	SIC_2	% EMP	SIC_3	TOTAL EMPLOYMENT YR 1	YR 2	YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10
MAINT/REPAIR	22	17	5.4%	171 172 173 174 175 176 177 178 179	82.5	195.6	270.0	298.5	244.3	200.6	173.8	182.4	135.3	97.1
SEMICONDUCTORS	78	36	1.0%	367	15.2	36.0	49.7	55.0	45.0	37.0	32.0	33.6	24.9	17.9
MOTOR FRT./STOR	92	42	1.3%	421 422 423	19.3	45.7	63.2	69.8	57.1	46.9	40.7	42.7	31.6	22.7
AIR TRANSPORT	94	45	2.4%	451 452 458	36.5	86.4	119.4	131.9	108.0	88.7	76.8	80.6	59.8	42.9
TELEPHONE/TELEG	97	48	1.4%	481	21.6	51.1	70.6	78.1	63.9	52.5	45.5	47.7	35.4	25.4
GEN.WHOLESALE	108	50,51	2.4%	502 503 504 505 506 507 509 511 512 513 516 518 519	36.5	86.4	119.4	131.9	108.0	88.7	76.8	80.6	59.8	42.9
DEPT. & VARIETY	110	53	3.2%	531 533 539	49.1	116.3	160.6	177.6	145.3	119.3	103.4	108.5	80.5	57.8
FOOD STORES	111	54	4.4%	541 542 543 544	67.4	159.9	220.8	244.1	199.8	164.1	142.1	149.2	110.6	79.4

TEXAS I/O MODEL EXTRACTIONS

SECTOR NAME	NO.	SIC_2	% EMP	SIC_3	TOTAL EMPLOYMENT YR 1	YR 2	YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10
				545										
				546										
				549										
AUTO DEALERS	112	55	1.8%		26.9	63.8	88.0	97.3	79.6	65.4	56.7	59.5	44.1	31.6
				551										
				552										
				553										
				555										
				556										
				557										
				559										
APPAREL STORE	114	56	1.5%		23.4	55.5	76.6	84.7	69.3	56.9	49.3	51.7	38.4	27.5
				561										
				562										
				563										
				564										
				565										
				566										
				568										
				569										
HOME FURNISHING	115	57	1.7%		25.7	60.9	84.0	92.9	76.0	62.4	54.1	56.8	42.1	30.2
				571										
				572										
				573										
EATING/DRINKING	116	58	7.7%		117.6	278.8	384.9	425.5	348.2	286.0	247.8	260.1	192.8	138.4
				581										
OTHER RETAIL	117	59	4.1%		61.5	145.9	201.4	222.6	182.2	149.6	129.6	136.1	100.9	72.4
				591										
				592										
				593										
				594										
				596										
				598										
				599										
BANKING INSTI.	118	60	1.7%		26.0	61.6	85.0	94.0	76.9	63.2	54.7	57.5	42.6	30.6
				601										
				602										
				604										
				605										
CREDIT INSTI.	119	61,67	1.5%		22.2	52.6	72.6	80.3	65.7	53.9	46.7	49.1	36.4	26.1
				611										
				612										
				613										
				614										
				615										

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TEXAS I/O MODEL EXTRACTIONS

SECTOR NAME	NO.	SIC_2	% EMP	SIC_3	TOTAL EMPLOYMENT YR 1	YR 2	YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10
				616 671 672 673 679										
INSURANCE	121	63	1.2%	631 632 633 635 636	17.9	42.5	58.7	64.9	53.1	43.6	37.8	39.6	29.4	21.1
REAL ESTATE	123	65	5.5%	651 653 654 655 656	83.7	198.5	274.0	302.9	247.9	203.6	176.4	185.1	137.3	98.5
LODGING SERVICE	124	70	2.3%	701 702 703 704	34.6	82.1	113.4	125.3	102.6	84.2	73.0	76.6	56.8	40.8
LAUNDRY/CLEAN	125	72	1.4%	721	21.1	50.1	69.1	76.4	62.5	51.4	44.5	46.7	34.6	24.9
PHOTO/FILM/VIDE	129	72,73,7	2.8%	722 733 739 781 782	43.1	102.3	141.2	156.1	127.8	104.9	90.9	95.4	70.7	50.8
CLEAN/MAINT.	130	73	1.0%	734	15.6	37.1	51.2	56.6	46.3	38.1	33.0	34.6	25.7	18.4
PERSONNEL SRV.	131	73	1.4%	736	20.7	49.0	67.6	74.8	61.2	50.3	43.5	45.7	33.9	24.3
COMPUTER PROC.	132	73	1.1%	737	16.7	39.6	54.7	60.5	49.5	40.6	35.2	37.0	27.4	19.7
OTHER BUS.SRV.	137	73	1.2%	732 733 735 739	18.1	42.9	59.2	65.4	53.5	44.0	38.1	40.0	29.6	21.3
AUTO REPAIR	139	75	1.0%		15.8	37.5	51.7	57.2	46.8	38.4	33.3	34.9	25.9	18.6

TEXAS I/O MODEL EXTRACTIONS

SECTOR NAME	NO.	SIC_2	% EMP	SIC_3	TOTAL EMPLOYMENT YR 1	YR 2	YR 3	YR 4	YR 5	YR 6	YR 7	YR 8	YR 9	YR 10
				753										
				754										
MOVIES/AMUSEMNT	141	78,79	1.3%		19.7	46.8	64.6	71.5	58.5	48.0	41.6	43.7	32.4	23.2
				783										
				791										
				792										
				793										
				794										
				799										
PHYSICIANS/DENT	142	80	1.4%		21.1	50.1	69.1	76.4	62.5	51.4	44.5	46.7	34.6	24.9
				801										
				802										
				803										
				804										
HOSPITAL SRVC.	144	80	3.2%		48.2	114.2	157.6	174.3	142.6	117.1	101.5	106.5	79.0	56.7
				806										
LEGAL SERVICES	146	81	1.1%		16.6	39.3	54.2	59.9	49.0	40.3	34.9	36.6	27.2	19.5
				811										
NONPROFIT/MUSEU	152	84,86	1.1%		16.9	40.0	55.2	61.0	49.9	41.0	35.5	37.3	27.7	19.8
				841										
				842										
				861										
				862										
				863										
				864										
				865										
				869										
DOMESTIC SRVICE	154	88	2.6%		39.0	92.6	127.8	141.3	115.6	95.0	82.3	86.4	64.0	46.0
				881										
ACCOUNTING/BOOK	156	89	1.1%		16.6	39.3	54.2	59.9	49.0	40.3	34.9	36.6	27.2	19.5

b. Occupational Data Derived from I/O Model

SSCL INDIRECT EMPLOYMENT OCCUPATIONS
INITIAL EXTRACTIONS

OES	TITLE	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10
10000	MANAGERS	155	370	513	579	456	375	322	345	257	187
13002	FINANCIAL MANAGERS	2	11	17	23	17	11	11	9	7	2
15017	CONSTRUCTION MANAGERS	0	9	10	10	8	9	6	9	0	0
15026	FOOD SERVICE MANAGERS	10	26	33	35	31	26	24	24	16	11
19005	GENERAL MANAGERS	27	62	97	113	83	64	56	59	46	39
19999	ALL OTHER MANAGERS	116	263	356	398	317	266	225	245	189	135
20000	PROFESSIONAL/TECHNICAL	61	137	184	202	167	139	123	130	96	69
22126	ELECTRICAL ENGINEERS	7	13	19	21	17	13	13	13	9	7
22505	ELECTRIC ENGIN TECHS	5	15	19	21	17	15	11	11	9	7
25102	SYSTEMS ANALYSTS, EDP	7	13	19	21	17	15	13	13	9	7
25104	COMPUTER PROGRAMMERS/AIDES	7	13	17	19	17	13	11	13	9	7
27311	RECREATION WORKERS	7	19	25	27	23	19	17	20	14	9
28108	LAWYERS	12	28	37	41	33	28	26	26	20	14
28305	PARALEGAL PERSONNEL	2	6	10	10	8	6	6	7	5	5
28308	TITLE SEARCHERS	5	13	17	19	15	13	11	13	9	7
28311	TITLE EXAMINERS/ABSTRACTORS	7	17	23	25	21	17	15	15	11	7
30000	EDUCATION/HEALTH/RELATED	81	173	240	268	219	178	162	165	132	91
31317	NONVOC-ED INSTRUCTORS	5	9	12	14	10	11	9	9	7	5
32102	PHYSICIANS/SURGEONS	5	9	12	12	10	9	9	9	7	5
32502	REGISTERED NURSES	32	71	95	105	85	73	63	65	52	37
32505	LICENSED PRACTICAL NURSES	20	34	48	54	46	34	32	33	27	21
32517	PHARMACISTS	2	6	10	10	8	6	6	7	5	5
32916	RADIOLOGIC TECHS/TECHNOLS	2	6	8	10	8	6	6	7	5	2
34023	PHOTOGRAPHERS	7	15	21	25	19	15	15	15	11	9
34056	PRODUCERS AND DIRECTORS	5	13	17	19	15	13	13	13	11	7
39999	ALL OTHER PROFESSIONAL/TECH	2	11	17	19	17	11	9	9	7	2
40000	SALES AND RELATED	342	782	1056	1159	956	801	695	724	546	400
41002	SALES SUPERVISORS	5	24	35	37	27	24	15	13	11	7
43002	INSURANCE SALES AGENTS	5	6	12	12	13	6	6	7	5	5
43008	REAL ESTATE AGENTS	7	15	21	23	19	15	15	4	11	9
49008	SALES REPS, WHOLESALE	7	19	25	29	25	19	19	20	18	11
49011	SALESPERSONS, RETAIL	172	365	501	548	446	377	330	347	269	203
49014	SALESPERSONS, PARTS	2	6	10	10	8	6	6	7	2	2
49017	COUNTER & RENTAL CLERKS	7	17	23	25	21	17	15	15	11	9
49021	STOCK CLERKS, SALES FLOOR	25	56	72	80	67	58	50	50	39	25
49023	CASHIERS	66	156	199	219	190	159	138	148	107	73
49999	OTHER SALES WORKERS	44	118	157	175	142	120	99	115	73	55
50000	CLERICAL AND OTHER SUPPORT	135	479	716	798	633	497	417	443	298	199
51002	FIRSTLINE SUPERVISORS,CLERICAL	0	6	12	12	10	6	4	4	0	0
53102	TELLERS	7	19	25	27	23	19	17	17	14	9
53121	LOAN AND CREDIT CLERKS	2	15	23	25	17	15	15	15	9	7
53123	ADJUSTMENT CLERKS	5	11	14	14	13	11	9	9	5	5

SSCL INDIRECT EMPLOYMENT OCCUPATIONS
INITIAL EXTRACTIONS

OES	TITLE	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10
53508	BILL/ACCOUNTS COLLECTORS	2	6	10	10	8	6	4	4	5	2
53805	RESERVATION AGENTS	7	17	23	25	21	17	15	15	11	9
55102	LEGAL SECRETARIES	12	30	39	43	35	30	26	28	23	16
55199	ALL OTHER SECRETARIES	25	100	151	169	140	105	84	91	59	39
55305	RECEPTIONISTS	12	24	29	37	29	26	22	24	20	18
55307	TYPISTS	7	11	19	21	17	11	9	9	9	7
55311	TYPISTS/WORD PROCESSORS	0	6	8	10	6	6	6	7	5	2
55323	ORDER CLERKS	0	4	10	10	6	4	4	4	5	2
55335	CUSTOMER SERVICE REPS	2	6	8	10	8	6	6	7	5	5
55338	BOOKKEEPING CLERKS	7	45	85	97	73	49	41	41	27	16
55347	GENERAL OFFICE CLERKS	27	107	155	173	138	109	93	100	64	27
56017	DATA-ENTRY KEYERS	2	9	12	12	10	9	6	9	5	5
57108	CENTRAL OFFICE OPERATORS	5	11	14	16	15	13	11	11	9	7
58023	STOCK CLERKS, STOCKROOM	0	15	21	23	19	15	15	15	7	5
58028	SHIPPING/RECEIVING CLERKS	2	15	21	23	19	15	9	11	2	5
59999	OTHER CLERICAL WORKERS	7	21	35	39	27	24	19	22	16	14
60000	SERVICE WORKERS	430	940	1253	1384	1144	957	838	879	665	473
61099	OTHER SERVICE SUPERVISORS	7	17	23	25	21	17	15	17	14	9
62031	BUTLERS/HOUSEKEEPERS	2	6	8	10	8	6	6	7	5	5
62041	CHILD CARE WORKERS, PRIVATE	27	58	77	85	69	58	52	54	43	30
62061	SERVANTS/CLEANERS, PRIVATE	44	92	124	136	113	94	82	87	68	48
63047	SECURITY GUARDS	10	17	27	31	27	19	17	17	16	9
65002	HOSTS/HOSTESSES	7	15	19	21	17	15	13	13	11	7
65005	BARTENDERS	12	30	39	45	35	32	28	28	20	14
65008	WAITERS AND WAITRESSES	71	160	213	233	194	163	143	150	116	78
65014	DINING ROOM ATTENDANTS	15	32	43	47	40	34	30	33	23	16
65017	COUNTER ATTENDANTS	20	38	48	54	44	36	30	33	25	21
65021	BAKERS, BREAD AND PASTRY	7	13	17	21	17	13	11	13	9	7
65026	COOKS, RESTAURANT	20	41	54	60	50	43	37	39	32	21
65030	COOKS, FAST-FOOD/SHORT-ORDER	25	53	72	80	67	54	48	50	39	27
65038	FOOD PREPARATION WORKERS	25	58	75	85	71	60	52	54	39	30
65041	COMBINED FOOD PREP WORKERS	47	100	135	148	123	103	91	95	73	50
65099	OTHER FOOD SERV WORKERS	2	15	19	21	17	15	15	15	7	5
66002	DENTAL ASSISTANTS	5	11	14	14	13	11	9	9	7	5
66008	NURSING AIDES/ORDERLIES	10	21	29	31	25	21	17	22	14	9
67001	JANITORS, CLEANERS, MAIDS	42	90	122	136	113	92	82	87	61	48
67002	MAIDS AND HOUSECLEANERS	7	17	23	23	19	17	15	15	9	9
67005	JANITORS AND CLEANERS	5	13	17	19	17	11	9	4	7	5
68014	RECREATION ATTENDANTS	2	6	10	10	6	6	6	7	5	5
68021	USHERS/LOBBY ATTENDANTS	5	9	10	12	10	9	6	7	7	5
68026	FLIGHT ATTENDANTS	7	15	19	21	17	15	13	13	9	7
69999	OTHER SERVICE WORKERS	5	13	17	16	15	13	11	11	7	7
70000	AGRICULTURAL/FARM/RELATED	25	51	70	76	65	54	50	46	32	25
79014	GARDENERS/GROUNDSKEEPERS	25	51	70	76	65	54	50	46	32	25
80000	PRODUCTION/CONSTRUCTION/RELATE	290	671	940	1031	859	694	594	629	465	343

BEST COPY AVAILABLE

SSCL INDIRECT EMPLOYMENT OCCUPATIONS
INITIAL EXTRACTIONS

OES	TITLE	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10
81002	SUPERVISORS, MECHANICS	5	9	17	16	13	9	9	9	7	7
81005	SUPERVISORS, CONST TRADES	0	9	10	10	10	9	9	9	7	0
85132	MAINT REPAIRERS, GENERAL	15	32	41	49	40	32	28	22	23	16
85301	AUTO & MOTORCYCLE MECHANICS	7	21	31	35	27	21	19	22	16	11
85302	AUTO MECHANICS	5	11	12	16	10	11	11	11	9	7
85305	AUTO BODY REPAIRERS	2	9	10	10	8	9	4	4	5	2
85320	AIRCRAFT MECHS & ENGINE REPRS	7	17	21	23	21	17	15	15	11	7
85323	AIRCRAFT MECHANICS	7	15	19	21	17	15	13	13	11	7
85502	PBX INSTALLERS/REPAIRERS	2	6	8	10	8	6	6	7	5	5
85702	TELEPHONE/CABLE INSTALLERS	2	6	8	10	8	6	6	7	5	2
85723	ELEC POWERLINE INSTALLERS	5	9	10	12	10	9	6	9	7	5
85902	HEAT/REFRIG MECHANICS	5	13	19	19	19	13	13	13	5	5
87110	CARPENTERS	10	24	33	35	31	26	22	24	18	11
87202	ELECTRICIANS	12	28	35	39	33	28	24	26	18	14
87302	BRICK MASONS	2	6	10	10	8	9	6	7	5	5
87311	CONCRETE/TERRAZZO FINISHERS	10	17	25	27	23	17	15	17	14	11
87402	PAINTER/PAPERHANGER, CONSTRUC	15	30	39	43	35	30	28	28	23	16
87502	PLUMBERS/PIPEFITTERS	7	17	23	25	21	17	15	15	14	9
87602	CARPET INSTALLERS	2	9	10	10	10	9	6	9	5	2
87808	ROOFERS	7	17	23	27	21	17	15	17	14	9
89132	SHEET METAL WORKERS	5	11	17	19	15	11	11	11	9	7
89505	CUSTOM TAILORS/SEWERS	5	11	12	12	13	11	6	9	5	5
89517	PRESSERS, DELICATE FABRIC	5	9	10	12	10	9	6	9	7	5
89801	BUTCHERS AND MEAT CUTTERS	7	15	21	23	19	17	15	15	11	9
92726	DRYCLEANING MACH OPERATORS	7	15	21	23	19	17	15	15	11	9
92728	PRESSING MACHINE OPERATORS	5	11	14	16	15	11	11	11	9	7
92998	OTHER MACHINE OPERATORS	2	11	14	14	10	11	2	2	2	2
97101	TRUCK DRIVERS, ALL	42	96	143	155	135	103	84	91	59	48
97117	DRIVERS/SALES WORKERS	0	4	8	12	8	4	4	4	5	5
97702	AIRCRAFT PILOTS/ENGINEERS	10	26	37	39	31	26	24	26	18	14
97956	OPERATING ENGINEERS	5	9	12	14	13	9	6	7	7	5
98311	HELPERS-MASONS'	2	9	12	12	10	11	9	9	5	5
98312	HELPERS-CARPENTERS'	2	6	10	10	8	6	6	7	2	2
98314	HELPERS-PAINTERS'	2	9	12	12	10	9	9	9	5	5
98316	HELPERS-ROOFERS'	2	6	8	10	8	6	6	7	5	5
98319	HELPERS, OTHER CONSTR TRADE	7	15	19	19	15	15	11	11	7	7
98799	OTHER FREIGHT/STOCK MOVERS	7	19	31	33	25	19	17	20	14	9
98905	VEHICLE WASHERS	12	24	33	35	29	24	22	22	18	11
98999	OTHER HELPERS/LABORERS	29	64	97	109	90	69	56	65	48	34
TOTAL	INDIRECT EMPLOYMENT	1519	3602	4973	5497	4499	3695	3201	3360	2491	1788

Appendix B

Disk File Documentation

Disk One: Employment Data

This disk contains 24 Dbase files with the SSCL and County-level labor demand and employment data developed during this project. The individual files are stored in four directories and are described below.

A. SSCL Directory: Data files for SSCL direct and indirect employment.

1. File name: DIRECT.DBF
Description: Occupational estimates, by construction and operation categories, for SSCL direct employment in the ten year construction to operation period.

Number of data records: 39

Field	Field Name	Type	Width
1	OES	Character	5
2	Place	Character	5
3	Type	Character	7
4	Title	Character	30
5	Yr1	Numeric	6
6	Yr2	Numeric	6
7	Yr3	Numeric	6
8	Yr4	Numeric	6
9	Yr5	Numeric	6
10	Yr6	Numeric	6
11	Yr7	Numeric	6
12	Yr8	Numeric	6
13	Yr9	Numeric	6
14	Yr10	Numeric	6
Total			108

2. File name: INDIRECT.DBF
Description: Occupational estimates of SSCL indirect employment for the ten year construction to operation period.

Number of data records: 20

Field	Field Name	Type	Width
1	OES	Character	5
2	Title	Character	30
3	Yr1	Numeric	6
4	Yr2	Numeric	6
5	Yr3	Numeric	6
6	Yr4	Numeric	6
7	Yr5	Numeric	6
8	Yr6	Numeric	6
9	Yr7	Numeric	6
10	Yr8	Numeric	6
11	Yr9	Numeric	6
12	Yr10	Numeric	6
Total			96

B. Counties Directory: Data files for individual counties within the region

File names:

a. COLL_2D.DBF
b. DALL_2D.DBF
c. DENT_2D.DBF
d. ELLI_2D.DBF
e. ERAT_2D.DBF
f. HILL_2D.DBF
g. HOOD_2D.DBF
h. HUNT_2D.DBF
i. JOHN_2D.DBF
j. KAUF_2D.DBF
k. MCLE_2D.DBF
l. NAVA_2D.DBF
m. PALO_2D.DBF
n. PARK_2D.DBF
o. ROCK_2D.DBF
p. SOME_2D.DBF
q. TARR_2D.DBF
r. WISE_2D.DBF

Number of data records: 70

Field	Field Name	Type	Width
1	SIC	Char	2
2	SICT	Char	25
3	ACT88	Char	6
4	ACT89	Numeric	6
5	ACT90	Numeric	6
6	FCST91	Numeric	6
7	FCST92	Numeric	6
8	FCST93	Numeric	6
9	FCST94	Numeric	6
10	FCST95	Numeric	6
11	FCST96	Numeric	6
12	FCST97	Numeric	6
13	FCST98	Numeric	6
14	FCST99	Numeric	6
15	FCST00	Numeric	6
Total			106

Description: Annual employment estimates and forecasts by two-digit SIC code industries for the years 1988 through 2000.

C. Dallas Directory: Additional data files for Dallas County.

1. File Name: DALL_SIC.DBF
Description: Annual estimates and forecasts of Dallas county industrial employment by three-digit SIC codes for the years 1988 through 2000.

Number of data records: 288

Field	Field Name	Type	Width
1	SIC	Character	4
2	SICT	Character	25
3	ACT88	Numeric	6
4	ACT89	Numeric	6
5	ACT90	Numeric	6
6	FCST91	Numeric	6
7	FCST92	Numeric	6
8	FCST93	Numeric	6
9	FCST94	Numeric	6
10	FCST95	Numeric	6
11	FCST96	Numeric	6
12	FCST97	Numeric	6
13	FCST98	Numeric	6
14	FCST99	Numeric	6
15	FCST00	Numeric	6
Total			108

2 File name: DALL_OES.DBF
Description: Annual estimates and forecasts of Dallas County occupational employment by five-digit OES codes for 1988 through 2000.

Number of data records: 734

Field	Field Name	Type	Width
1	OES	Character	5
2	OEST	Character	30
3	ACT88	Numeric	6
4	ACT89	Numeric	6
5	ACT90	Numeric	6
6	FCST91	Numeric	6
7	FCST92	Numeric	6
8	FCST93	Numeric	6
9	FCST94	Numeric	6
10	FCST95	Numeric	6
11	FCST96	Numeric	6
12	FCST97	Numeric	6
13	FCST98	Numeric	6
14	FCST99	Numeric	6
15	FCST00	Numeric	6
Total			114

D. Tarrant Directory: Additional data files for Tarrant County.

1. File Name: TARR_SIC.DBF
Description: Annual estimates and forecasts of Tarrant county industrial employment by three-digit SIC codes for the years 1988 through 2000.

Number of data records: 288

Field	Field Name	Type	Width
1	SIC	Character	4
2	SICT	Character	25
3	ACT88	Numeric	6
4	ACT89	Numeric	6
5	ACT90	Numeric	6
6	FCST91	Numeric	6
7	FCST92	Numeric	6
8	FCST93	Numeric	6
9	FCST94	Numeric	6
10	FCST95	Numeric	6
11	FCST96	Numeric	6
12	FCST97	Numeric	6
13	FCST98	Numeric	6
14	FCST99	Numeric	6
15	FCST00	Numeric	6
Total			108

2 File name: TARR_OES.DBF
Description: Annual estimates and forecasts of Tarrant County occupational employment by five-digit OES codes for 1988 through 2000.

Number of data records: 734

Field	Field Name	Type	Width
1	OES	Character	5
2	OEST	Character	30
3	ACT88	Numeric	6
4	ACT89	Numeric	6
5	ACT90	Numeric	6
6	FCST91	Numeric	6
7	FCST92	Numeric	6
8	FCST93	Numeric	6
9	FCST94	Numeric	6
10	FCST95	Numeric	6
11	FCST96	Numeric	6
12	FCST97	Numeric	6
13	FCST98	Numeric	6
14	FCST99	Numeric	6
15	FCST00	Numeric	6
Total			114

Disk Two: Employer Listings

This disk contains two Dbase files with the listings of North Central Texas Employers of occupations significantly affected by the event of the SSCL. One file, EMPOVR50.DBF, contains 2,279 firms with 50 employees or more. The second, EMPUND50.DBF, contains 7,460 firms with 10 to 49 employees. Both files are sorted by county and SIC code and are formatted as described below.

Number of data records: 2279 and 7460

Field	Field Name	Type	Width
1	County	Character	10
2	Firm	Character	30
3	Address	Character	30
4	City	Character	10
5	Zip	Character	5
6	AC	Character	3
7	Phone	Character	7
8	Employ	Character	7
9	SIC	Character	2
Total			104

Appendix C

North Central Texas Employer Listing

Appendix C
North Central Texas Employer Listing

COUNTY=COLLIN

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
A R C O OIL INTERNATIONAL GAS	2300 W PLANO PKY	PLANO	75075	4223000	1000+	13
BOWATER COMPUTER FORMS	3000 E PLANO PKY	PLANO	75074	5782000	100-499	35
CAPITAL WIRE & CABLE	910 10TH PO BOX 86007	PLANO	75074	4236565	100-499	36
CLARK HIGH SCHOOL	523 W SPRING CREEK PKY	PLANO	75023	5175105	100-499	82
COLLIN COUNTY COMMUNITY CLG	2200 W UNIVERSITY DR	MC KINNEY	75070	5486790	1000+	82
DSC COMMUNICATION CORP	1000 COIT RD	PLANO	75075	5193000	1000+	36
HAGGARD MIDDLE SCHOOL	2401 WESTSIDE DR	PLANO	75075	8670430	100-499	82
HOLLAND HITCH OF TEXAS	1301 MARTINEZ LN PO BOX 950	WYLIE	75098	4423556	100-499	37
HUTSON INDUSTRIES	1000 HUTSON CIR PO BOX 90	FRISCO	75034	2486424	100-499	36
INTECOM INC	601 INTECOM DR	ALLEN	75002	7279141	500-999	50
J C PENNEY LIFE INS CO	2700 W PLANO PKY	PLANO	75075	8816000	500-999	63
J W CHRISTIE INC	PO BOX 386	FRISCO	75034	3772111	100-499	35
MEMORY TECH INC	2800 SUMMIT AVE	PLANO	75074	8818800	100-499	36
MONTGOMERY ELEVATOR COMPANY	2101 COUCH DR	MC KINNEY	75069	5420351	100-499	35
NORTH TEXAS WATER DIST	505 E BROWN ST	WYLIE	75098	4425405	100-499	49
PLANO EAST SENIOR HIGH SCHOOL	3000 LOS RIOS BLVD	PLANO	75074	4239664	100-499	82
PLANO SENIOR HIGH SCHOOL	2200 INDEPENDENCE PKY	PLANO	75075	8671300	100-499	82
PRIMO MICROPHONES INC	1805 COUCH DR	MC KINNEY	75069	5429374	100-499	36
ROCKWELL INTERNATIONAL CORP	1225 ALMA RD	PLANO	75075	9965000	1000+	87
SANDEN INTERNATIONAL	601 S SANDEN BLVD	WYLIE	75098	3493030	100-499	35
SCHIMELPFENIG LIBRARY	5024 CUSTER RD	PLANO	75023	9644200	100-499	82
SCHIMELPFENIG MIDDLE SCHOOL	2400 MAUMELLE DR	PLANO	75023	6186703	100-499	82
SENISYS	1600 W PLANO PKY	PLANO	75075	4221844	100-499	36
SHELBY AUTOMOTIVE TECH	2100 COUCH DR	MC KINNEY	75069	5489911	100-499	34
SHEPTON HIGH SCHOOL	5601 W PARKER RD	PLANO	75093	4031425	100-499	82
SPAN INSTRUMENTS INC	1947 AVENUE K	PLANO	75074	4235320	100-499	50
STEWART SYSTEMS INC	808 STEWART AVE	PLANO	75074	4225808	100-499	50
TAD TEMPORARIES	1836 W VIRGINIA ST # 107	MC KINNEY	75069	5426175	100-499	73
TANDEM TELECOMMUNICATIONS	850 CENTRAL PKY E	PLANO	75074	4231812	100-499	87
TELE CABLE OF RICHARDSON	1414 SUMMIT AVE PO BOX 864720	PLANO	75074	2317900	100-499	48
TEXAS INSTRUMENTS	2501 W UNIVERSITY	MC KINNEY	75070	5423301	1000+	36
TEXAS TRANSFORMER	1301 E PLANO PKWY	PLANO	75074	4241581	100-499	50
US BRASS	901 10TH ST PO BOX 37	PLANO	75074	4233576	100-499	34
VINES HIGH SCHOOL	1401 HIGHEDGE DR	PLANO	75075	5964405	100-499	82
WILKINS & ASSOCIATES	2600 AVENUE K # 237	PLANO	75074	4235552	100-499	87
YOUNG ENTERPRISES INC	1501 CAPITAL AVE	PLANO	75074	4230722	100-499	17

Appendix C
North Central Texas Employer Listing

COUNTY=DALLAS

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
	901 MAIN ST # 4300	DALLAS	75202	6514655	100-499	87
800 FLOWERS	8001 BENT BRANCH DR	IRVING	75063	8301800	500-999	73
A B M SECURITY SERVICE	2300 VALLEY VIEW LN # 1025	IRVING	75062	2562959	100-499	73
A C I GLASS	12900 NICHOLSON RD	FARMERS BRANCH	75234	4843691	100-499	50
A D I	3030 L B J FRWY	FARMERS BRANCH	75234	2434030	100-499	87
A D P-AUTOMATIC DATA PROC	2735 STEMMONS FWY	DALLAS	75207	6309311	100-499	73
A H BELO CORP	508 YOUNG ST	DALLAS	75265	9778730	1000+	48
A P A C-TEXAS INC	2121 IRVING BLVD PO BOX 224048	DALLAS	75207	7413531	100-499	29
A T & T TECHNOLOGIES	3000 SKYLINE DR	MESQUITE	75149	2842000	1000+	36
A T M O S ENERGY CORP	5430 LBJ FRWY PO BOX 650205	DALLAS	75265	9349227	1000+	49
ACOUSTICAL SERVICES INC	4701 BENGAL ST	DALLAS	75235	6388620	100-499	17
ADAMPAC INC	1750 WESTPARK DR # 100	GRAND PRAIRIE	75050	6406430	100-499	73
ADAMSON HIGH SCHOOL	201 E 9TH ST	DALLAS	75203	9443800	100-499	82
ADELL CORPORATION	200 ADELL BLVD	MESQUITE	75182	2264600	100-499	50
ADVANCED ART	2200 COCKRELL AVE	DALLAS	75215	4214307	100-499	50
AER MANUFACTURING INC	3420 WILEY POST RD PO BOX 979	CARROLLTON	75011	2334311	100-499	50
AERIAL & UNDERGROUND TELECOMMS	1226 FORD ST	IRVING	75061	5791679	100-499	16
AEROSPATIALE HELICOPTER	2701 FORUM DR	GRAND PRAIRIE	75051	6410000	100-499	37
AIRBORN INCORPORATED	4321 AIRBORN DR	DALLAS	75248	9313200	100-499	36
ALBERT M HALFF ASSOCS	8616 NORTHWEST PLZ DR	DALLAS	75225	7390094	100-499	87
ALEXANDER & ALEXANDER	717 N HARWOOD 19TH FLOOR	DALLAS	75201	8800321	100-499	63
ALL SEASONS SPAS-MORGAN	2800 MCCREE RD	GARLAND	75041	2712441	100-499	17
ALL STAR SECURITY INC	788 S FLOYD RD	RICHARDSON	75080	2358844	100-499	73
ALTON MFG CO	4830 TRANSPORT DR	DALLAS	75247	6386010	100-499	35
ALUMAX ALUMINUM CORP	227 S TOWN EAST BLVD	MESQUITE	75149	2858811	100-499	34
AMERICA ADVERTISING	1607 MAIN ST 10TH FLR	DALLAS	75201	7458810	100-499	73
AMERICAN BLDG MNTNC CO	330 SOUTH R L THORNTON FWY	DALLAS	75203	9410584	500-999	73
AMERICAN BUILDING MNTNC	1601 ELM ST	DALLAS	75201	9699001	100-499	73
AMERICAN FACSIMILE SYSTS	1421 CHAMPION DR	CARROLLTON	75006	6208920	500-999	48
AMERICAN IRON & METALS	2215 S GOOD LATIMER	DALLAS	75226	4282861	100-499	50
AMERICAN LEGAL SYSTEMS	500 S ERVAY ST # 200A	DALLAS	75201	7485779	100-499	73
AMERICAN PERMANENT WARES	729 3RD AVE PO BOX 650037	DALLAS	75226	4217366	100-499	34
AMERICAN PETROFINA HOLDING CO	8350 N CENTRAL PO BOX 2159	DALLAS	75206	7502400	1000+	29
AMERICAN PRODUCTS CO	2606 BRENNER DR	DALLAS	75220	3573961	100-499	50
AMERICAN PROTECTIVE SERVICES	5944 LUTHER LN # 301	DALLAS	75225	6927844	100-499	73
AMERICAN REMODELING INC	4949 W ROYAL LN	IRVING	75063	9294088	1000+	15
AMERISERV HOME REPAIR	4722 ALMOND ST	DALLAS	75247	2311067	100-499	50
AMTECH CORP	17304 PRESTON RD # E100	DALLAS	75252	7336600	100-499	36
ANDERSEN CONSULTING	1950 N STEMMONS FWY # 5002	DALLAS	75207	7618100	100-499	73
ANDREW CORPORATION	1350 N GREENVILLE AVE # 100	RICHARDSON	75081	6991384	100-499	87
ANDREW SCI COMM INC	2908 NATIONAL DR	GARLAND	75041	8404900	100-499	36
ANIXTER-DALLAS	1620 W CROSBY RD # 115	CARROLLTON	75006	4467337	100-499	50
APOLLO JUNIOR HIGH SCHOOL	1600 APOLLO RD	RICHARDSON	75081	2386770	100-499	82
ART INSTITUTE OF DALLAS	8080 PARK LN	DALLAS	75231	6928080	100-499	82
ARTHUR ANDERSON	901 MAIN ST	DALLAS	75202	7418300	1000+	87
ASSOCIATED BLDG SVCS CO	2154 W NORTHWEST HWY # 200	DALLAS	75220	4582387	100-499	73
ATLAS ARCHITECTURAL MTLS	8230 LOVETT ST	DALLAS	75227	3884701	100-499	34
ATWELL MIDDLE SCHOOL	1303 REYNOLDSTON LN	DALLAS	75232	3022150	100-499	82
AUSTIN COMMERCIAL INC	3535 TRAVIS ST # 300	DALLAS	75204	4435700	500-999	15
AUTOMOTIVE SATELLITE NETWORK	1303 MARSH LN	CARROLLTON	75006	4164100	100-499	48
AXON	1768 EMPIRE CENTRAL	DALLAS	75235	5038000	100-499	17
AXON INC	1768 EMPIRE CENTRAL	DALLAS	75248	6343500	100-499	17
B A E AUTOMATED SYSTEMS	2525 CARTER DR	CARROLLTON	75006	2459411	100-499	35
BAKER HUGHES MINING TOOLS	1600 S GREAT SOUTHWEST PKY	GRAND PRAIRIE	75051	9883322	100-499	35
BAKER METAL PRODUCTS INC	11140 ZODIAC LN PO BOX 59445	DALLAS	75229	2413553	100-499	34
BANC TEC INC	4435 SPRING VALLEY RD	DALLAS	75244	4507700	1000+	73
BARTON PROTECTIVE SVCS	222 W LAS COLINAS BLVD # 1430	IRVING	75039	8693804	100-499	73
BERKNER HIGH SCHOOL	1600 E SPRING VALLEY RD	RICHARDSON	75081	3014100	100-499	82
BESTWAY BUILDING SERVICES INC	433 N BRIERY RD	IRVING	75061	7904642	100-499	73
BIG STATE RECORD DISTRNG	4830 LAKAWANA ST	DALLAS	75247	6311100	100-499	50
BILL J PRIEST INSTITUTE	1402 CORINTH ST	DALLAS	75215	5655700	100-499	87
BISHOP ENGINE PARTS INC	220 SANTE FE ST	DALLAS	75203	9420662	100-499	50
BLOCKBUSTER ENTERTNMNT	10460 MILLER RD	DALLAS	75238	5032200	500-999	87
BLOOM ADVERTISING AGENCY	3500 MAPLE AVE FLR 5	DALLAS	75219	4439900	100-499	73
BOEING ELECTRONICS INC	3131 STORY RD W PO BOX 152707	IRVING	75038	6592600	1000+	36
BOOKER T WASHINGTON HIGH SCHL	2501 FLORA ST	DALLAS	75201	7207300	100-499	82
BOOTH INC	2310 MC DANIEL DR	CARROLLTON	75006	4843222	100-499	35
BOZELL INC	201 E HWY 114	IRVING	75062	5561100	100-499	73
BRASS CRAFT WESTERN CO	300 E PECAN ST PO BOX 100	LANCASTER	75146	2275511	100-499	34
BRIDGE OIL	12404 PARK CENTRAL DR # 400	DALLAS	75251	7883300	100-499	13
BRIGGS-WEAVER INC	5000 HARRY HINES BLVD	DALLAS	75235	6313600	100-499	50
BRINK'S HOME SECURITIES	1628 VALWOOD PKY	CARROLLTON	75006	4849161	100-499	50
BRINKMANN CORPORATION	4215 MCEWEN RD	DALLAS	75244	3874939	100-499	35
BRITTON BUILDING MAINTENANCE	8700 N STEMMONS FWY # 360	DALLAS	75247	6378634	100-499	73
BROCKWAY STANDARD INC	3301 S LAMAR ST	DALLAS	75215	4217161	100-499	34
BROMO DISTRIBUTORS	10911 PETAL ST	DALLAS	75238	3434700	1000+	37
BROOKHAVEN COLLEGE	3939 VALLEY VIEW LN	FARMERS BRANCH	75244	6204803	500-999	82
BRYAN ADAMS HIGH SCHOOL	2101 HILLMAR DR	DALLAS	75228	3190140	100-499	82

COUNTY=DALLAS
(continued)

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
BUCKNER BLVD PLUMBING CO	4030 GUS THOMASSON RD	MESQUITE	75150	6812425	100-499	17
BUSINESS & MANAGEMENT CENTER	2218 BRYAN ST	DALLAS	75201	9531123	100-499	82
BUSINESS RECORDS CORP	1111 W MOCKINGBIRD LN # 1400	DALLAS	75247	6881800	500-999	73
C E I SOUTHWEST	3022 WHEELOCK ST	DALLAS	75220	3523032	100-499	17
CALTEX PETROLEUM INC	125 E JOHN CARPENTER FWY	DALLAS	75247	8301000	100-499	13
CAMERON IRON WORKS INC	L T V TOWER	DALLAS	75201	7422864	100-499	35
CANON COPIERS	14875 LANDMARK BLVD # 400	DALLAS	75240	7880800	100-499	50
CANON USA	3200 REGENT BLVD	IRVING	75063	8309600	100-499	50
CARROLL COMPANY	2900 W KINGSLEY RD	GARLAND	75041	2781304	100-499	28
CARTER HIGH SCHOOL	1819 W WHEATLAND RD	DALLAS	75232	2243584	100-499	82
CBI LABORATORIES INC	2150 HUTON DR	CARROLLTON	75006	2417546	100-499	28
CEDAR HILL HIGH SCHOOL	1 LONGHORN BLVD PO BOX 248	CEDAR HILL	75104	2914273	100-499	82
CEDAR VALLEY COLLEGE	3030 N DALLAS AVE	LANCASTER	75134	3728200	100-499	82
CENTEL COMM SYSTEMS	1544 VALWOOD PKY	CARROLLTON	75006	6208300	100-499	48
CENTENNIAL HOMES INC	5720 L B J FWY # 610	DALLAS	75240	4589909	100-499	15
CENTRAL & SOUTHWEST SERVICES	1616 WOODALL RODGERS FWY	DALLAS	75202	7541000	1000+	49
CHALLENGER ELECTRIC EQPT	1102 AVENUE T	GRAND PRAIRIE	75050	6472315	100-499	36
CHANNEL 4-K D F W-TV	400 N GRIFFIN	DALLAS	75202	7204444	100-499	48
CHANNEL 8 W F A A-T V	606 YOUNG ST	DALLAS	75202	7489631	100-499	48
CHAPMAN CONSTRUCTION CO	2524 N IH 35 E	CARROLLTON	75006	2425202	100-499	16
CHILTON CORP	12606 GREENVILLE AVE	DALLAS	75243	6996111	500-999	73
CHRIST FOR THE NATIONS	3404 CONWAY PO BOX 769000	DALLAS	75224	3761711	100-499	82
CIMFLEX TEKNOWLEDGE CORP	5025 ARAPAHO RD # 506	DALLAS	75248	9910592	100-499	50
CLARK MOULDING CO	11587 HILLGUARD RD	DALLAS	75243	3405097	100-499	50
CLARY CORPORATION	1801 S GREAT SOUTHWEST PKY	GRAND PRAIRIE	75051	6603940	100-499	35
CLAYCOMB & ASSOCIATE	5401 N CENTRAL EXPY # 315	DALLAS	75205	5262090	100-499	87
CLUB CORPORATION OF AMERICA	3030 LYNDON B JOHNSON FWY	DALLAS	75234	2436191	100-499	87
CO-MET STEEL INC	4846 SINGLETON BLVD	DALLAS	75212	6385200	100-499	34
COLUMBIA GENERAL CORP	5750 PINELAND DR # 210	DALLAS	75231	3736991	100-499	34
COMMERCIAL METALS CO	7800 STEMMONS FWY PO BOX 1046	DALLAS	75247	6894300	1000+	50
COMPUTER LANGUAGE RESEARCH	2395 MIDWAY RD	CARROLLTON	75006	2507000	1000+	73
COMPUTER ROOMERS INC	9219 VISCOUNT ROW	DALLAS	75247	6300280	100-499	50
COMPUTER SUPPORT CORP	15926 MIDWAY RD	DALLAS	75244	6618960	100-499	73
CONLEY-LOTT-NICHOLS MACHINERY	1311 S ERVAY ST PO BOX 660236	DALLAS	75215	4213581	100-499	50
CONTINENTAL BATTERY MFG	4919 WOODALL ST	DALLAS	75247	6315701	100-499	50
CONTINENTAL ELECTRONICS CORP	4212 S BUCKNER BLVD	DALLAS	75227	3817161	100-499	36
CONTINENTAL TELEPHONE CO	6606 LYNDON B JOHNSON FWY	DALLAS	75240	7162000	100-499	48
CONVEX COMPUTER CORP	3000 WATERVIEW PKY	RICHARDSON	75080	4974000	1000+	73
COOPERS & LYBRAND	1999 BRYAN ST # 3000	DALLAS	75201	7545000	100-499	87
CORGAN ASSOCIATES ARCHS	501 ELM ST # 500	DALLAS	75202	7482000	100-499	87
CRAIN CHEMICAL CO	2630 ANDJON DR PO BOX 540995	DALLAS	75220	3583301	100-499	28
CRANE PLUMBING CO	8290 S CENTRAL EXPY	DALLAS	75216	3718700	100-499	50
CRESAP A TOWERS PERRIN	12377 MERIT DR # 1200	DALLAS	75251	2391333	100-499	87
CUPLEX INC	1500 E HWY 66	GARLAND	75040	2760333	100-499	36
DAL-TILE CORPORATION	7834 C F HAWN FWY PO BOX 17130	DALLAS	75217	3981411	500-999	17
DALLAS AUTO AUCTION	4226 E MAIN ST	GRAND PRAIRIE	75050	2642344	100-499	50
DALLAS BAPTIST UNIVERSITY	7777 W KIEST BLVD	DALLAS	75211	3318311	100-499	82
DALLAS CONVENTION CENTER	650 S GRIFFIN ST	DALLAS	75202	6587000	100-499	73
DALLAS PEST & TERMITE SERVICES	10210 MONROE DR	DALLAS	75229	2522521	100-499	73
DALLAS PLUMBING CO	11055 PLANO RD	DALLAS	75238	3406300	100-499	17
DALLAS PUBLIC LIBRARY	1515 YOUNG ST	DALLAS	75201	6701400	100-499	82
DALLAS SCHOOL DISTRICT	3700 ROSS AVE	DALLAS	75204	8241620	100-499	82
DALLAS SEMICONDUCTOR	4401 S BELTWOOD PKY	DALLAS	75244	4500400	500-999	36
DALLAS THEOLOGICAL SEMINARY	3909 SWISS AVE	DALLAS	75204	8243094	100-499	82
DANA CORPORATION	600 W BELT LINE RD	LANCASTER	75146	2272221	100-499	50
DARR EQUIPMENT CO	2000 AIRPORT FWY E	IRVING	75062	7212000	100-499	50
DAVID BURNET ELEMENTARY SCHOOL	3200 KINKAID DR	DALLAS	75220	9041220	100-499	82
DAVID M GIBSON CO INC	8401 AMBASSADOR ROW	DALLAS	75247	6301441	100-499	73
DAVIS WALKER STEEL/WIRE	1915 JOHN CONNALLY DR	CARROLLTON	75006	4162822	100-499	50
DE GOLYER & MAC NAUGHTON	4925 GREENVILLE AVE # 400	DALLAS	75206	3686391	100-499	73
DECIBEL PRODUCTS INC	3184 QUEBEC ST PO BOX 569610	DALLAS	75247	6310310	500-999	50
DELHI GAS PIPELINE	1700 PACIFIC AVE PO BOX 10	DALLAS	75201	9542000	100-499	13
DELOITTE & TOUCHE	2001 BRYAN TWR # 2400	DALLAS	75201	2208000	100-499	87
DELOITTE HASKINS & SELLS	1400 LINCOLN PLAZA	DALLAS	75201	9544500	100-499	87
DELOITTE HASKINS & SELLS	1400 LINCOLN PLZ	DALLAS	75201	7208100	500-999	87
DELTA BRANDS INC	2204 CENTURY CENTER BLVD	IRVING	75062	4387150	100-499	17
DELTA STEEL BUILDINGS CO	10848 LUNA RD	DALLAS	75220	5561010	100-499	34
DESIGN STUDIO OF GABBERTS	13342 MIDWAY RD	FARMERS BRANCH	75244	8512112	100-499	73
DESIGNER COLLECTION	901 REGAL ROW	DALLAS	75247	6348040	100-499	50
DEVRY INSTITUTE OF TECHNOLOGY	4250 N BELTLINE RD	IRVING	75038	2586330	100-499	82
DIAMOND SHAMROCK EXPLRTN	2001 ROSS AVE # 1500	DALLAS	75201	9795000	100-499	13
DIGITAL EQUIPMENT CORP	4851 L B JOHNSON FWY # 1100	DALLAS	75244	7024000	100-499	50
DIVERSCO INC	10912 SANDEN DR	DALLAS	75238	9531234	100-499	17
DON EDWARD & CO	2005 MC DANIEL DR	CARROLLTON	75006	4842300	100-499	50
DON EDWARD & COMPANY	2005 MCDANIEL DR	CARROLLTON	75006	2632955	100-499	50
DRESSER INDUSTRIES	1600 PACIFIC AVE PO BOX 718	DALLAS	75201	7406000	1000+	35
DRIVER PIPELINE CO INC	2019 RUDER ST	DALLAS	75212	6387131	100-499	16

Appendix C
North Central Texas Employer Listing

COUNTY=DALLAS
(continued)

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
DU BOSE STUDIO	5627 RICHARD AVE	DALLAS	75206	2200042	100-499	73
E P I TECHNOLOGIES INC	1331 N PLANO RD	RICHARDSON	75081	6805500	100-499	50
E-SYSTEMS INC	1200 JUPITER RD	GARLAND	75042	2720515	1000+	36
EARLE M JORGENSEN CO	2030 W COMMERCE ST	DALLAS	75208	7411761	100-499	50
EASTFIELD COLLEGE	3737 MOTLEY DR	MESQUITE	75150	3247100	500-999	82
EASTMAN KODAK COMPANY	2800 FOREST LN	DALLAS	75234	2411611	100-499	50
EASTMAN KODAK COMPANY	5221 N OCONNOR BLVD	IRVING	75039	5069700	100-499	73
ED BELL CONSTRUCTION CO	10605 HARRY HINES BLVD	DALLAS	75220	3586581	100-499	16
EDISON MIDDLE LEARNING CENTER	2940 SINGLETON BLVD	DALLAS	75212	6891700	100-499	82
EDM OF TEXAS	14042 DISTRIBUTION WAY	FARMERS BRANCH	75234	2412501	100-499	37
EDS TECHNICAL PRODUCTS	1800 JAY ELL DR	RICHARDSON	75081	4705000	100-499	35
EDWARD TITCHE ELEMENTARY SCHL	9560 HIGHFIELD DR	DALLAS	75227	3818700	100-499	82
EL CENTRO COLLEGE	MAIN & LAMAR ST	DALLAS	75202	7462311	500-999	82
ELECTRIC & GAS TECHNOLOGY INC	13636 NEUTRON RD	DALLAS	75244	9348797	100-499	73
ELECTRONIC DATA SYSTEMS CORP	7171 FOREST LN	DALLAS	75230	6616000	1000+	73
ELECTROSPACE SYSTEMS INC	1301 E COLLINS BLVD	RICHARDSON	75081	4702000	1000+	36
EMPLOYERS CASUALTY CO	1301 YOUNG ST PO BOX 2759	DALLAS	75202	7606100	500-999	63
ENDEVCO INC	8080 N CENTRAL EXPY 12TH FLR	DALLAS	75206	6915536	100-499	49
ENSERCH CORPORATION	300 S ST PAUL	DALLAS	75201	6518700	1000+	13
ENSERCH EXPLORATION INC	1817 WOOD ST	DALLAS	75201	7481110	1000+	13
ENSERCH EXPLORATION INC	4849 GREENVILLE AVE	DALLAS	75206	3697893	100-499	49
EPIC HEALTHCARE GROUP	3333 LEE PKY PO BOX 650398	DALLAS	75219	8690707	100-499	87
EPISCOPAL SCHOOL OF DALLAS	4100 MERRELL RD	DALLAS	75229	3584368	100-499	82
EQUIFAX COMPANIES	1401 N CENTRAL EXPY	RICHARDSON	75080	2347200	100-499	73
ERICSSON NORTH AMERICA	1010 E ARAPAHO RD	RICHARDSON	75081	6699900	1000+	50
ERNST & YOUNG	2001 ROSS AVE # 2800	DALLAS	75201	9791700	100-499	87
ERNST & YOUNG	2121 SAN JACINTO ST # 500	DALLAS	75201	9698000	1000+	87
EXCITE	1270 CHAMPION CIR	CARROLLTON	75006	2430035	100-499	50
EXXON CORPORATION	225 E JOHN W CARPENTER FWY	IRVING	75062	4441000	1000+	29
FEDERAL DEPOSIT INSURANCE CORP	5080 SPECTRUM DR # 1000E	DALLAS	75248	7012400	500-999	73
FERGUSON MFG & EQUIPMENT	4900 HARRY HINES BLVD	DALLAS	75235	6313000	100-499	35
FIREMAN'S FUND INS COS	1999 BRYAN ST	DALLAS	75201	2204000	100-499	63
FIRST COMPANY	8273 MOBERLY LN PO BOX 270969	DALLAS	75227	3885751	100-499	35
FISCHBACH & MOORE INCORPORATED	11050 ABLES LN	DALLAS	75229	4847270	100-499	17
FONE AMERICA	3200 BROADWAY BLVD # 500	GARLAND	75043	8400030	100-499	87
FORD BACON & DAVIS INC	2201 N CENTRAL EXPWY	RICHARDSON	75080	2386500	1000+	87
FORNEY ENGINEERING	3405 WILEY POST RD	CARROLLTON	75006	4586100	100-499	50
FORT KNOX PROTECTION INC	111 EXECUTIVE WAY # 102	DE SOTO	75115	2986991	100-499	73
FREED FURNITURE COMPANY	4355 L B J FWY	DALLAS	75244	2336871	100-499	50
FREEMAN DECORATING CO	8801 AMBASSADOR ROW	DALLAS	75247	6341463	100-499	73
FUJIKOKI AMERICA INC	4040 BRONZE WAY	DALLAS	75237	3334266	100-499	34
FUJITSU AMERICA INC	1111 DIGITAL DR	RICHARDSON	75081	6999341	100-499	36
FUJITSU AMERICA INC	2801 TELECOM PKY	RICHARDSON	75082	6909660	500-999	48
G E COMPANY	2951 KINWEST PKY	IRVING	75063	8692636	100-499	50
G S ZACHARY CO INC	1750 N COLLINS BLVD	RICHARDSON	75080	6442745	100-499	15
G T E DIRECTORIES CORPORATION	1411 GREENWAY DR	IRVING	75038	5182700	100-499	73
G T E TELEPHONE OPERATIONS	5205 N OCONNOR RD	IRVING	75039	7185000	1000+	48
GAS EQUIPMENT CO INC	11616 HARRY HINES BLVD	DALLAS	75229	2412333	100-499	49
GENERAL ALUMINUM CORP	1001 W CROSBY RD	CARROLLTON	75006	2425271	100-499	50
GIFFORD HILL	2515 MCKINNEY AVE	DALLAS	75201	7545500	1000+	34
GIFFORD-HILL & COMPANY INC	1000 MEYERS RD	GRAND PRAIRIE	75050	2632181	100-499	50
GILBERT OF TEXAS INC	2820 N CARROLL AVE	DALLAS	75204	8247540	100-499	15
GLITSCH INC	4900 SINGLETON BLVD	DALLAS	75266	6313841	100-499	34
GLOVER MACHINE CO	210 S MOROCCO ST PO BOX 210187	DALLAS	75211	3318373	100-499	35
GNB BATTERIES INC	1880 VALLEY VIEW LN	FARMERS BRANCH	75234	2431011	100-499	36
GOODYEAR TIRE & RUBBER	7301 AMBASSADOR ROW	DALLAS	75247	6379100	100-499	50
GRACE DRILLING COMPANY	15301 DALLAS PKY	DALLAS	75248	6612700	1000+	13
GRACE ENERGY CORP	13455 NOEL RD # 1500	DALLAS	75240	7700200	1000+	13
GREAT WESTERN ERECTORS	11203 SHADY TRL	DALLAS	75229	2410700	100-499	17
GREEN HOLDINGS INC	511 E JOHN W CARPENTER	DALLAS	75247	8693290	1000+	15
GREENSTEIN LOGAN & CO	1909 WOODDALL ROGERS # 400	DALLAS	75201	9311694	100-499	87
GREINER ENGINEERING INC	909 E LAS COLINAS BLVD	IRVING	75039	8691001	1000+	87
GREINER MIDDLE SCHOOL	501 S EDGEFIELD AVE	DALLAS	75208	9443420	100-499	82
GRINNELL FIRE PROTECTION	2425 E PIONEER DR	IRVING	75061	7219129	100-499	87
GTE SOUTHWEST	8550 ESTERS BLVD	IRVING	75063	9292000	100-499	48
GUARDCO	320 REGAL ROW # 120	DALLAS	75247	6314922	100-499	73
GUIBERSON	1000 FOREST AVE PO BOX 1106	DALLAS	75221	4214101	100-499	35
GUIBERSON	4949 JOSEPH HARDIN DR	DALLAS	75236	3313313	100-499	50
H & K DALLAS	1343 S HENDERSON ST	DALLAS	75223	8212740	100-499	50
H K HUIE JR CONSTR CO	14400 DALLAS PKY	DALLAS	75240	9804170	100-499	15
H K S INC	1111 PLZ-THE AMERS N	DALLAS	75201	9695599	100-499	87
H-R INDUSTRIES INC	1401 EXCHANGE DR	RICHARDSON	75081	6993686	100-499	36
HAC CORPORATION	PO BOX 531166	GRAND PRAIRIE	75053	2634387	100-499	37
HALLIBURTON SERVICES	500 N AKARD ST	DALLAS	75201	9782600	100-499	35
HARKEN RESOURCE MANAGEMENT CO	2505 N HWY 380 # 800	GRAND PRAIRIE	75050	6951188	100-499	13
HCB CONTRACTORS	1401 ELM ST # 4600	DALLAS	75202	8407271	100-499	15
HELLMUTH OBATA/KASSABAUM	6688 N CENTRAL EXPY # 700	DALLAS	75206	7396688	100-499	87

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Appendix C
North Central Texas Employer Listing

COUNTY=DALLAS
(continued)

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
HELP UNLIMITED INC	1475 PRUDENTIAL DR	DALLAS	75235	6303851	1000+	73
HENNINGSON DURHAM & RICHARDSON	12700 HILLCREST RD	GRAND PRAIRIE	75051	2631013	100-499	87
HERITAGE MEDIA CORP	13355 NOEL RD # 1500	DALLAS	75240	7027380	500-999	48
HERMAN MILLER INC	902 AVENUE T	GRAND PRAIRIE	75050	6412443	100-499	50
HI-TECHNOLOGY OPTICAL	1425 LE MAY DR	CARROLLTON	75007	3231343	100-499	50
HIGHLAND PARK HIGH SCHOOL	4220 EMERSON AVE	DALLAS	75205	5264800	100-499	82
HILLCREST HIGH SCHOOL	9924 HILLCREST RD	DALLAS	75230	9878412	100-499	82
HILTON RESERVATION SERVICE	2050 CHENNAULT DR	CARROLLTON	75006	2335600	100-499	73
HITACHI SEMICONDUCTOR AMERICA	6431 LONGHORN DR	IRVING	75063	5800088	100-499	36
HOGAN SYSTEMS	5080 SPECTRUM DR	DALLAS	75248	3860020	100-499	73
HOLMAN BOILER WORKS INC	1956 SINGLETON BLVD	DALLAS	75212	6370020	100-499	50
HOLMAN BOILER WORKS INC	1956 SINGLETON BLVD	DALLAS	75212	2630019	100-499	50
HOME INTERIORS & GIFTS INC	4550 SPRING VALLEY RD	DALLAS	75244	3861000	100-499	50
HONEYWELL INC	830 E ARAPAHO RD	RICHARDSON	75081	2344271	100-499	36
HOOD MIDDLE SCHOOL	7625 HUME DR	DALLAS	75227	3818700	100-499	82
HOSPITAL/HOME-BOUND SCHOOL	12532 NUESTRA DR	DALLAS	75230	4908701	100-499	82
HUMPHREY & ASSOC INC	11235 SHADY TRL	DALLAS	75229	6201075	100-499	17
HUNT ENERGY CORPORATION	3500 THANKSGIVING TOWER	DALLAS	75201	8808400	100-499	13
HUTCO	10721 N STEMMONS FWY	DALLAS	75220	5562850	100-499	50
HYDROSCIENCE INC	2659 NOVA DR	DALLAS	75229	2479052	100-499	50
I-T-E ELECTRICAL PRODS	4646 BRONZE WAY PO BOX 210219	DALLAS	75211	3392231	100-499	36
ICH COMPANIES	500 N AKARD PO BOX 2699	DALLAS	75201	9547111	500-999	63
INGERSOLL-RAND CO	2100 N 1ST ST	GARLAND	75041	4958181	100-499	35
INNOVATIVE OFFICE SYSTEMS INC	14875 LANDMARK BLVD # 400	DALLAS	75240	7020887	100-499	50
INTEGRA	4441 W AIRPORT FWY	IRVING	75062	2588500	1000+	87
INTEGRAL CORP	1424 S BARRY AVE PO BOX 151369	DALLAS	75223	8260590	100-499	36
INTELLICALL INC	2155 CHENAULT DR	CARROLLTON	75006	4160022	100-499	48
INTERCONTINENTAL BERGMAN MFG	1200 N GLENBROOK DR	GARLAND	75046	2765131	500-999	34
INTERNATIONAL POWER	2975 MILLER PARK N	GARLAND	75042	2728000	100-499	17
INTERTURBINE DALLAS	1177 N GREAT SW PKY	GRAND PRAIRIE	75050	6477800	100-499	37
IRVING SENIOR HIGH SCHOOL	900 N OCONNOR RD	IRVING	75061	2541525	100-499	82
IRVING U S POSTAL SERVICE	2701 W IRVING BLVD	IRVING	75061	9866557	100-499	91
ITT	1412 MAIN ST	DALLAS	75202	7440240	100-499	48
J D ABRAMS INC	1140 EMPIRE CENTRAL PL # 101	DALLAS	75247	6880525	100-499	15
JEFFERSON SR HIGH SCHOOL	4001 WALNUT HILL LN	DALLAS	75229	9041000	100-499	82
JET EAST INC	7363 CEDAR SPRINGS	DALLAS	75235	3508523	100-499	73
JET FLEET CORPORATION	8605 LEMMON AVE	DALLAS	75209	3504061	100-499	73
JOHN DEERE COMPANY	10650 HARRY HINES BLVD	DALLAS	75220	3521701	100-499	50
JOHNSON CONTROLS INC	1111 S SHILOH RD PO BOX 461729	GARLAND	75046	4942461	100-499	50
JOSEPH T RYERSON & SON	4606 SINGLETON BLVD	DALLAS	75212	6374710	100-499	50
K E R A-F M	3000 HARRY HINES BLVD	DALLAS	75201	8711390	100-499	48
K R L D	1080 METROMEDIA PL	DALLAS	75247	6341080	100-499	48
K-C AVIATION INC	7350 CEDAR SPGS	DALLAS	75235	9027500	500-999	37
KENNETH LEVENTHAL & COMPANY	2200 ROSS AVE # 1100	DALLAS	75201	9690900	100-499	87
KETEMA INCORPORATED	2300 W MARSHALL DR	GRAND PRAIRIE	75051	6472626	100-499	50
KEYSTONE CONSOLIDATED IND INC	5430 LBJ FWY # 1440	DALLAS	75240	4580028	1000+	34
KIMBALL HIGH SCHOOL	3606 S WESTMORELAND RD	DALLAS	75233	3317700	100-499	82
KIMBERLY-CLARK CORP	545 E JOHN CARPENTER FWY	IRVING	75062	8301200	1000+	34
KODALUX PROCESSING SERVICES	3131 MANOR WAY	DALLAS	75235	3525900	100-499	73
L A D GROUP	14900 LANDMARK BLVD	DALLAS	75240	3859144	100-499	73
L D BRINKMAN & CO	520 N WILDWOOD RD	IRVING	75061	5793500	100-499	50
L H LACY COMPANY	10888 SHADY TRL	DALLAS	75220	3570146	100-499	15
L P COWART ELEMENTARY SCHOOL	1515 S RAVINIA DR	DALLAS	75211	3317870	100-499	82
L T V ENERGY PRODUCTS CO	2441 FOREST LN	GARLAND	75042	4873000	1000+	50
L W HOLMES MIDDLE SCHOOL	2001 E KIEST BLVD	DALLAS	75216	3022380	100-499	82
LADEW FIRE PROTECTION	4120 SCOTTSDALE DR	DALLAS	75227	3882171	100-499	50
LAFARGE CORP	12801 N CENTRAL PLZ III # 1600	DALLAS	75243	9347100	100-499	50
LAKE HIGHLANDS HIGH SCHOOL	9449 CHURCH RD	DALLAS	75238	5534200	100-499	82
LANCASTER MANUFACTURING	904 KATY ST	LANCASTER	75146	2276950	100-499	35
LAVENTHOL & HORWATH	2121 SAN JACINTO # 1700	DALLAS	75201	7547100	100-499	87
LEE DATAMAIL SERVICES	1617 TERRE COLONY CT	DALLAS	75212	6306941	100-499	73
LENNOX INTERNATIONAL INC	2100 LAKE PARK BLVD	RICHARDSON	75080	4975000	1000+	35
LEVI STRAUSS	900 N DOROTHY DR	RICHARDSON	75081	2342030	100-499	36
LINCOLN HIGH SCHOOL	2826 HATCHER ST	DALLAS	75215	4217121	100-499	82
LOCKWOOD GREENE ENGINEERS	4201 SPRING VALLEY RD # 1500	FARMERS BRANCH	75244	9915505	100-499	87
LOFLAND CO	5219 MAPLE AVE PO BOX 35446	DALLAS	75235	6315250	100-499	34
LOGIC DESIGN METALS INC	4805 ARAPAHO RD	DALLAS	75248	2391361	100-499	34
LOGIC INC	9330 L B J FWY # 500	DALLAS	75243	2381898	100-499	73
LOGIC MANAGEMENT SVCS	9330 L B J FWY # 500	DALLAS	75243	6990135	100-499	73
LONE STAR GAS CO	1310 HWY 66 PO BOX 461965	GARLAND	75046	4873800	100-499	28
LONE STAR GAS COMPANY	301 S HARWOOD ST	DALLAS	75201	7413711	1000+	13
LONG MILE RUBBER CO	6840 FOREST PARK RD	DALLAS	75235	3507851	100-499	28
LOOMIS ARMORED INC	1655 VILBIG RD	DALLAS	75208	7422554	100-499	73
M A R C INC	7850 N BELT RD	DALLAS	75265	5063400	1000+	87
M C I TELECOMMUNICATIONS	400 INTERNATIONAL PKY	RICHARDSON	75081	7834900	1000+	48
MAC ARTHUR SENIOR HIGH SCHOOL	3700 N MACARTHUR BLVD	IRVING	75062	2552171	100-499	82
MAIL BOX INC	3700 PIPESTONE RD	DALLAS	75212	6880331	100-499	73

COUNTY=DALLAS
(continued)

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
MANAGEMENT INSIGHTS INC	5501 L B JOHNSON FWY # 815	DALLAS	75244	2395065	100-499	87
MANAGEMENT SCIENCE AMER	4100 ALPHA RD # 1100	FARMERS BRANCH	75244	9343640	100-499	73
MANGUM MFG CO	5522 MAPLE AVE PO BOX 35908	DALLAS	75235	6376740	100-499	37
MARAZZI USA INC	359 CLAY RD & SCYENE RD	MESQUITE	75182	2260110	100-499	50
MARMON MOTOR COMPANY	102 N SHILOH RD	GARLAND	75042	2765121	100-499	35
MARY KAY COSMETICS	1330 REGAL ROW	DALLAS	75247	6386750	500-999	28
MARY KAY COSMETICS INC	8787 N STEMMONS HWY	DALLAS	75247	6308787	1000+	28
MAXIM ENGINEERS INC	2342 FABENS RD	DALLAS	75229	2477575	100-499	87
MAXUS ENERGY CORP	717 N HARWOOD ST	DALLAS	75201	9532000	1000+	13
MAYNARD OIL	8080 N CENTRAL EXPWY # 660	DALLAS	75206	8918880	100-499	13
MC CULLOCH MIDDLE SCHOOL	3520 NORMANDY AVE	DALLAS	75205	5210786	100-499	82
MEDCO CONSTRUCTION	2625 ELM ST # 216	DALLAS	75226	8202492	100-499	15
MEISEL PHOTOCHROME CORP	9645 WEBBS CHAPEL RD	DALLAS	75220	3506666	100-499	73
MEISEL PHOTOGRAPHIC CORP	9645 WEBBS CHAPEL RD	DALLAS	75220	3526711	100-499	73
MERCER-MEIDINGER-HANSEN	2200 ROSS AVE # 3500	DALLAS	75201	2206200	100-499	63
METROCEL CELLULAR CO	17300 DALLAS PKY # 1000	DALLAS	75248	3808771	100-499	48
MICROPAC INDUSTRIES INC	905 E WALNUT ST	GARLAND	75040	2723571	100-499	36
MILLION AIR	4300 WESTGROVE DR	DALLAS	75248	2481600	100-499	73
MILLS ELECTRICAL CONTRS	2535 WALNUT HILL PO BOX 59186	DALLAS	75229	3574300	100-499	17
MINUTE MAN OF TEXAS	1100 LUPO DR	DALLAS	75207	6378666	100-499	73
MIZAR DIGITAL SYSTEMS	1419 DUNN DR	CARROLLTON	75006	4462664	100-499	36
MOHAWK LABORATORIES	2727 CHEMSEARCH BLVD	IRVING	75062	4380551	500-999	28
MORGAN BUILDING SYSTEMS	2800 MCCREE RD	GARLAND	75041	4233369	100-499	15
MOSHER STEEL CO	5101 MAPLE AVE	DALLAS	75235	6313311	100-499	34
MOTOROLA COMMS/ELEC INC	3320 BELT LINE RD	DALLAS	75234	8886700	100-499	50
MOTOROLA COMMUNICATIONS	3320 BELT LINE RD	DALLAS	75234	5811044	100-499	50
MOUNTAIN VIEW COLLEGE	4849 W ILLINOIS AVE	DALLAS	75211	3338680	100-499	82
MULTI-AMP CORPORATION	4271 BRONZE WAY	DALLAS	75237	3333201	500-999	50
MURR BROS ELECTRIC CO	7120 MILITARY	DALLAS	75227	3811166	100-499	17
MURRAY GUARD INC	2828 FOREST LN # 1053	DALLAS	75234	4843583	100-499	73
N E C AMERICA	1525 WALNUT HILL LN	IRVING	75038	5185000	1000+	36
NATIONAL AUTO CENTER INC	605 W AIRPORT FWY	IRVING	75062	2580600	100-499	48
NATIONAL CHEMSEARCH CORP	2727 CHEMSEARCH BLVD	IRVING	75062	4380211	1000+	28
NATIONAL HAND TOOL	12827 VALLEY BRANCH LN	FARMERS BRANCH	75234	2471367	100-499	34
NATIONAL MARKETING SPECIALIST	5005 W ROYAL LN	IRVING	75063	9291290	100-499	73
NATIONAL OIL WELL	4040 FOREST LN	GARLAND	75042	4872800	100-499	50
NATIONAL PRESORT INC	901 W COMMERCE ST	DALLAS	75208	7458870	500-999	73
NATIONMARK INC	1270 CHAMPION CIR	CARROLLTON	75006	2416100	100-499	50
NATURALITE INC	3233 W KINGSLEY RD	GARLAND	75041	2781354	100-499	34
NEC AMERICA INC	1520 WALNUT HILL LN	IRVING	75038	5809100	500-999	36
NETWORK ACCESS CORP	1830 N GREENVILLE AVE	RICHARDSON	75081	2389676	100-499	48
NETWORK SECURITY CORP	14275 MIDWAY RD # 440	DALLAS	75244	4909902	100-499	50
NETWORK SECURITY CORP	1840 HUTTON DR BLDG 2 # 200	CARROLLTON	75006	4846767	100-499	73
NEWMAN SMITH SENIOR HIGH SCHL	2335 N JOSEY LN	CARROLLTON	75006	3235800	100-499	82
NIGHTRIDER COPY SERVICE	717 N HARWOOD ST # 460	DALLAS	75201	8711927	100-499	73
NIMITZ SENIOR HIGH SCHOOL	100 W OAKDALE RD	IRVING	75060	2593621	100-499	82
NORTH DALLAS HIGH SCHOOL	3120 N HASKELL AVE	DALLAS	75204	5591900	100-499	82
NORTH GARLAND SENIOR HIGH SCHL	2109 W BUCKINGHAM RD	GARLAND	75042	4948451	100-499	82
NORTH LAKE COLLEGE	5001 N MACARTHUR BLVD	IRVING	75038	6595230	500-999	82
NORTH TEXAS EXTRMNTNG CO	10210 MONROE DR	DALLAS	75229	2418545	100-499	73
NORTH TEXAS/GETZ PEST CONTROL	10210 MONROE DR	DALLAS	75229	4236960	100-499	73
NORTHERN TELECOM INC	1201 E ARAPAHO RD	RICHARDSON	75081	2347500	500-999	50
NORTHERN TELECOM INC	2100 LAKESIDE BLVD	RICHARDSON	75082	4378000	100-499	50
NORTHWEST SUB DIST OFC	1500 SINGLETON BLVD	DALLAS	75212	7415560	100-499	73
NRM ENERGY COMPANY LP	2121 SAN JACINTO ST # 2600	DALLAS	75201	8800243	100-499	13
OILWELL	4040 FOREST LN	GARLAND	75042	2766171	100-499	35
OLD AMERICAN PRODUCTS	2600 SINGLETON BLVD	DALLAS	75212	6373426	100-499	50
OLDEN & COMPANY	4141 N ST AUGUSTINE RD	DALLAS	75227	3884421	100-499	17
OLYMPUS CORPORATION	3131 W ROYAL LN	IRVING	75063	5569697	100-499	50
OPTEK TECHNOLOGY INC	1215 W CROSBY RD	CARROLLTON	75006	3232200	1000+	36
OPTICAL DATA SYSTEMS INC	1101 E ARAPAHO RD	RICHARDSON	75081	2346400	100-499	50
ORNELAS & ASSOC	200 CRESCENT CT # 900	DALLAS	75201	8552500	500-999	73
OTIS ENGINEERING CORP	2601 BELT LINE RD	CARROLLTON	75006	4183000	1000+	35
OTIS ENGINEERING CORP	2601 BELTLINE RD PO BOX 819052	CARROLLTON	75006	4183352	1000+	35
OVERHEAD DOOR CO	8600 S CENTRAL EXPY	DALLAS	75216	3768261	100-499	34
OVERSEAS PRODUCT INTERNATIONAL	11052 GRADER ST	DALLAS	75238	3487400	100-499	50
OWENS-CORNING FIBERGLAS	201 N NURSERY RD	IRVING	75061	4381050	100-499	29
OXYCHEMICAL CORPORATION	5005 L B J FWY PO BOX 809050	DALLAS	75244	4043800	1000+	28
P & M DRESSER MFG	3400 W ILLINOIS AVE	DALLAS	75211	3333211	100-499	35
PALMER PAPER CO	3180 IRVING BLVD	DALLAS	75247	6317460	100-499	35
PEARCE SENIOR HIGH SCHOOL	1600 N COIT RD	RICHARDSON	75080	9528300	100-499	82
PEARL C ANDERSON ELEM SCHOOL	3400 GARDEN LN	DALLAS	75215	5656400	100-499	82
PEDUS BUILDING SERVICE	10529 OLYMPIC DR	DALLAS	75220	3506895	500-999	73
PENROD DRILLING COMPANY	2200 THANKSGIVING TOWER	DALLAS	75201	8801700	100-499	13
PERSONNEL POOL	5910 N CENTRAL EXPY # 210	DALLAS	75206	8916886	100-499	73
PHYSICIANS BUS MGMT INC	9696 SKILLMAN ST # 370	DALLAS	75243	5535691	100-499	87
PINKSTON HIGH SCHOOL	2200 DENNISON ST	DALLAS	75212	6891603	100-499	82

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COUNTY=DALLAS
(continued)

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
POLY-AMERICA INC	2000 W MARSHALL DR	GRAND PRAIRIE	75051	6474374	100-499	28
POWER COMPUTING	1930 MI LINE DR	DALLAS	75207	6558822	100-499	73
POWER TEMPS INC	11325 PEGASUS ST	DALLAS	75238	3438367	100-499	73
PRIOR REBUILDERS INC	315 S INTERNATIONAL RD	GARLAND	75042	4944254	100-499	37
PROCTER & GAMBLE MFG CO	3609 S LAMAR ST PO BOX 655118	DALLAS	75215	4285143	100-499	28
PROLINE CORPORATION	2121 PANORAMIC CIR	DALLAS	75212	6314247	100-499	28
QUALEX INC C	6300 CEDAR SPRINGS RD	DALLAS	75235	3515101	100-499	73
R G I S INVENTORY SPEC	11325 PEGASUS ST # S117	DALLAS	75238	3419577	100-499	73
R T K L ASSOCIATES INC	2828 ROUTH ST # 200	DALLAS	75201	8718877	100-499	87
RAY BOYD CONSTR SYSTEMS	210 KATY ST	GARLAND	75040	2721548	100-499	17
RECOGNITION EQUIPMENT	2701 E GRAUWYLER RD	IRVING	75061	5795800	500-999	50
RECOGNITION EQUIPMENT INC	2701 E GRAUWYLER PO BOX 660204	IRVING	75061	5796000	1000+	35
REPUBLIC FINANCIAL SVCS	2727 TURTLE CREEK BLVD	DALLAS	75219	5591222	1000+	63
REPUBLIC HEALTH CORP	15303 DALLAS PKY # 1400	DALLAS	75248	8513100	1000+	87
RESEARCH POLYMERS INT'L	1201 AVENUE N	GRAND PRAIRIE	75050	9884200	100-499	28
RICHARDS GROUP INC	10000 N CENTRAL EXPY # 1200	DALLAS	75231	8915700	100-499	73
RICHARDS GROUP INC	10000 N CENTRAL EXPY # 1200	DALLAS	75231	9872700	100-499	73
RICHARDSON SENIOR HIGH SCHOOL	1250 W BELT LINE RD	RICHARDSON	75080	3014700	100-499	82
RICHARDSON WEST JR HIGH SCHOOL	1309 HOLLY DR	RICHARDSON	75080	4705350	100-499	82
RICHLAND COLLEGE	12800 ABRAMS RD	DALLAS	75243	2386194	1000+	82
ROBINSON NUGENT	2640 TARNA DR	DALLAS	75229	2411738	100-499	36
ROCHESTER GAUGES INC-TX	11616 HARRY HINES BLVD	DALLAS	75229	2412161	100-499	50
ROCKWELL INTRNTL ELECTS	3200 E RENNER RD	RICHARDSON	75082	7050000	1000+	36
ROGERS-O'BRIEN CONSTR CO	11145 MORRISON LN	DALLAS	75229	2431335	100-499	15
RONIN SECURITY INC	500 S ERVAY ST	DALLAS	75201	7488475	100-499	73
ROOSEVELT HIGH SCHOOL	525 BONNIE VIEW RD	DALLAS	75203	9443540	100-499	82
RSR CORPORATION	1111 W MOCKINGBIRD LN # 1000	DALLAS	75247	6316070	500-999	29
RUBICON CORP	1217 DIGITAL DR PO BOX 852099	RICHARDSON	75081	2316591	100-499	73
RYDER TRUCK RNTL-ONE-WAY	2551 S GOODLATIMER RD	DALLAS	75215	4280214	100-499	73
RYDER TRUCK RNTL-ONE-WAY	3200 HALIFAX ST	DALLAS	75247	3378201	100-499	73
S G S-THOMSON MICROELECTRONICS	1310 ELECTRONIC DR	CARROLLTON	75006	4666000	1000+	50
SANTA FE MINERALS INC	13455 NOEL RD # 1100	DALLAS	75240	7017300	100-499	13
SATELLITE MUSIC NETWORK INC	12655 N CENTRAL EXPY # 600	DALLAS	75243	9919200	100-499	48
SAVIN	2389 MIDWAY RD	CARROLLTON	75006	9311700	100-499	50
SCOTT CABLE COMM SYSTEMS	700 W AIRPORT FRWY PO BOX 2710	IRVING	75062	4389450	100-499	48
SEARS ROEBUCK AND CO	201 S PLANO RD	RICHARDSON	75081	4705601	100-499	17
SEARS TERMITE & PEST CONTROL	3015 BRYAN ST	DALLAS	75204	6277378	100-499	73
SEARS TERMITE & PEST CONTROL	3015 BRYAN ST	DALLAS	75240	2874669	100-499	73
SEISMIC ENGINEERING CO	2659 NOVA DR	DALLAS	75229	2417581	100-499	50
SERVICE ELECTRIC SUPPLY	10929 GRISSOM LN	DALLAS	75229	6202821	100-499	37
SFENA CORPORATION	2617 AVIATION PKY	GRAND PRAIRIE	75051	9888000	100-499	37
SHARED RESOURCE EXCH INC	17919 WATERVIEW PKY	DALLAS	75252	9076700	100-499	50
SHOWCO INC	201 REGAL ROW	DALLAS	75247	6301188	100-499	36
SIGNAL METAL INDUSTRIES INC	850 E PIONEER DR PO BOX 151178	IRVING	75060	4381022	100-499	34
SIGNATURE GROUP	4520 S BUCKNER BLVD # B	DALLAS	75227	3813355	100-499	73
SILVER STAR SECURITY	788 S FLOYD RD	RICHARDSON	75080	2358910	100-499	73
SIMUFLITE TRAINING INC	2929 W AIRFIELD DR	DALLAS	75261	4568000	100-499	82
SKAGGS ALPHA BETA	200 W CAMP WISDOM RD	DUNCANVILLE	75116	7808203	100-499	73
SKAGGS ALPHA BETA	9779 FOREST LN	DALLAS	75243	2340903	100-499	73
SKYLINE HIGH SCHOOL	7777 FORNEY RD	DALLAS	75227	3885731	500-999	82
SMITH ALARM SYSTEMS	7777 JOHN W CARPENTER FWY	DALLAS	75247	6313300	100-499	50
SMITH PROTECTIVE SVCS	8918 JOHN W CARPENTER FWY	DALLAS	75247	6314444	100-499	73
SNYDER GENERAL CORPORATION	3219 MCKINNEY AVE	DALLAS	75204	7540500	1000+	35
SNYDER GENERAL D P G HUTCHINS	302 NICHOLS DR	HUTCHINS	75141	2257351	100-499	35
SOLON AUTOMATED SERVICES	4430 BRONZE WAY	DALLAS	75236	3316561	100-499	50
SOUTH GRAND PRAIRIE HIGH SCHL	301 WARRIOR TRL	GRAND PRAIRIE	75051	2644731	100-499	82
SOUTH OAK CLIFF HIGH SCHOOL	3601 S MARSALIS AVE	DALLAS	75216	3714391	100-499	82
SOUTHERN METHODIST UNIVERSITY	6425 BOAZ	DALLAS	75275	6922000	1000+	82
SOUTHERN WASTE MATERIAL	301 N CROWDUS ST	DALLAS	75226	9399100	100-499	50
SOUTHWEST ELEVATOR CAB	3700 EAGLE PL # 100	DALLAS	75236	7808941	100-499	35
SOUTHWEST METAL TECH INC	850 NORTHLAKE DR	COPPELL	75019	4627627	100-499	35
SOUTHWESTERN ELECTRIC SERVICE	1717 MAIN ST # 3300	DALLAS	75201	7413125	100-499	49
SOUTHWESTERN STATES ASSN	4055 BELTLINE RD	DALLAS	75244	2337101	500-999	73
SPACE CORP	102 N SHILOH RD	GARLAND	75042	4942441	100-499	87
SPAN METALS CORPORATION	5100 E GRAND	DALLAS	75223	8271740	100-499	34
SPECTRADYNE INC	1501 N PLANO RD	RICHARDSON	75081	2342721	500-999	50
SPENCE MIDDLE SCHOOL	4001 CAPITOL AVE	DALLAS	75204	8415200	100-499	82
SPRUCE HIGH SCHOOL	9733 OLD SEAGOVILLE RD	DALLAS	75217	5576200	100-499	82
SQUARE D CO	1111 REGAL ROW	DALLAS	75247	6304521	100-499	36
STANLEY SMITH SECURITY	415 E AIRPORT FWY	IRVING	75062	5703911	100-499	73
STAR AUTO WAREHOUSE INC	4130 PLATINUM WAY	DALLAS	75237	3308171	100-499	50
STATE FARM INSURANCE CO	17301 PRESTON RD	DALLAS	75252	2505000	1000+	63
STEMMONS ELEMENTARY SCHOOL	2727 KNOXVILLE ST	DALLAS	75211	3317970	100-499	82
STERLING JEWELRY & DISTR	677 W CAMPBELL RD	RICHARDSON	75080	6993400	100-499	50
STERLING PERSONNEL SERVICES	12225 GREENVILLE AVE # 120	DALLAS	75243	6991595	500-999	73
STERLING SOFTWARE INC	8080 N CENTRAL EXPY #1100	DALLAS	75206	8918600	1000+	73
STEWART & STEVENSON	5025A CASH RD	DALLAS	75247	6318218	100-499	50

COUNTY=DALLAS
(continued)

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
STEWART & STEVENSON INC	3919 IRVING BLVD	DALLAS	75247	6315370	100-499	50
STORER CABLE COMMS	934 E CENTERVILLE RD	GARLAND	75041	8402288	100-499	48
SUN ENERGY PARTNERS LP	5656 BLACKWELL DR PO BOX 2880	DALLAS	75231	8906000	1000+	13
SUNSET HIGH SCHOOL	2120 W JEFFERSON BLVD	DALLAS	75208	9443640	100-499	82
SUNSHINE MINING CO	300 CRESCENT CT 15TH FLOOR	DALLAS	75201	8558700	500-999	13
SUPREME SECURITY	788 S FLOYD RD	RICHARDSON	75080	2358878	100-499	73
SURFACES INC	1671 S BROADWAY ST	CARROLLTON	75006	2455657	100-499	37
SVEDA GROUP INC	8404 ESTERS BLVD	IRVING	75063	9290444	100-499	50
T D INDUSTRIES	13850 DIPLOMAT DR	DALLAS	75234	8889500	100-499	17
T D MECHANICAL	13850 DIPLOMAT DR	DALLAS	75234	8889500	100-499	17
T D SERVICE	13850 DIPLOMAT DR	FARMERS BRANCH	75234	5890112	100-499	76
T I C UNITED CORP	4645 N CENTRAL EXPY	DALLAS	75205	5590580	1000+	37
T I D I	12160 GARLAND RD	DALLAS	75218	3288888	100-499	50
T M P & COMPANY	9669 NORTH CENTRAL EXPY # 230	DALLAS	75231	3736345	100-499	15
T P F & C A TOWERS PERRIN	12377 MERIT DR # 1200	DALLAS	75251	7012600	100-499	87
T R W TARGET MARKETING SVCS	901 N INTERNATIONAL PKY # 191	RICHARDSON	75081	6991271	100-499	73
T U ELECTRIC	1506 COMMERCE ST	DALLAS	75242	6531311	1000+	49
T U ELECTRIC	400 N OLIVE ST	DALLAS	75201	8128200	100-499	49
TEAGUE INDUSTRIES INC	3249 E RENNER RD	RICHARDSON	75082	4370271	100-499	17
TELECABLE OF RICHARDSON INC	1776 N GREENVILLE AVE	RICHARDSON	75081	2313700	100-499	48
TELEDYNE CONTROL APPLICATION	3401 SHILOH RD	GARLAND	75041	4825324	100-499	50
TELEDYNE GEOTECH	3401 S SHILOH RD	GARLAND	75041	2712561	100-499	50
TELEDYNE MERLA	300 KIRBY ST	GARLAND	75042	2768561	100-499	50
TELEDYNE MINERALS	3401 S SHILOH RD	GARLAND	75041	2713057	100-499	50
TELSCO INDUSTRIES	3301 W KINGSLEY RD	GARLAND	75041	2786131	100-499	35
TEXAS INSTRUMENTS INC	13500 N CENTRAL EXPY	DALLAS	75243	9952551	1000+	36
TEXAS INSTRUMENTS INC	13500 N CENTRAL EXPY	DALLAS	75243	9952011	1000+	37
TEXAS TRANE PARTS	133821 DIPLOMAT DR	DALLAS	75234	3584309	100-499	17
TEXAS TURNPIKE AUTHORITIES	3015 RALEIGH ST	DALLAS	75219	5226200	100-499	91
TEXAS UTILITIES CO	2001 BRYAN TOWER	DALLAS	75201	8125600	1000+	49
THOMAS REPROGRAPHICS	600 N CENTRAL EXPY	RICHARDSON	75080	2317227	100-499	36
THOMPSON ELEMENTARY SCHOOL	5700 BEXAR ST	DALLAS	75215	5656450	100-499	82
TIDEL SYSTEMS	2615 E BELT LINE RD	CARROLLTON	75006	4168222	100-499	35
TOLMAN BUILDING MNTNC	3508 DILIDO RD	DALLAS	75228	3219495	100-499	73
TOWERS PERRIN FORSTER & CROSBY	12377 MERIT DR	DALLAS	75251	2335561	100-499	87
TRACY-LOCKE INC	200 CRESCENT CT PO BOX 50129	DALLAS	75250	9699000	500-999	73
TRACY-LOCKE PUBLIC	200 CRESCENT CT	DALLAS	75201	8552000	500-999	87
TRANE COMPANY	13821 DIPLOMAT DR	DALLAS	75234	4066000	100-499	17
TRENCOR JETCO	3545 E MAIN ST	GRAND PRAIRIE	75050	2640311	100-499	35
TRINITY INDUSTRIES INC	2525 N STEMMONS FWY	DALLAS	75207	6314420	1000+	50
TRITON ENERGY CORP	6688 N CENTRAL EXPY	DALLAS	75206	6915200	1000+	13
TRUCOLOR PHOTO	7500 AMBASSADOR ROW	DALLAS	75247	6315114	100-499	73
TUBE FORMING INC	1533 CRESCENT DR	CARROLLTON	75006	4463550	100-499	35
TURNER SENIOR HIGH SCHOOL	1600 S JOSEY LN	CARROLLTON	75006	3235900	100-499	82
U S INSTRUMENT RENTAL INC	DALLAS FORT WORTH AIRPORT	DALLAS	75261	4564600	100-499	50
U S NOVA	788 S FLOYD RD	RICHARDSON	75080	2358846	100-499	73
U S POSTAL SERVICE	13770 NOEL RD	DALLAS	75240	2333780	100-499	48
U S SPRINT	8001 N STEMMONS FWY	DALLAS	75247	6375681	1000+	48
U T L CORPORATION	1508 W MOCKINGBIRD LN	DALLAS	75235	6386688	100-499	87
UNITED AMERICAN INS CO	2909 N BUCKNER BLVD PO BOX 810	DALLAS	75221	3282841	500-999	63
UNITED FABRICATION CORP	315 SEAHAWK DR	DE SOTO	75115	2248441	100-499	37
UNITED MECHANICAL	11540 PLANO RD	DALLAS	75243	3412042	100-499	17
UNITED PLUMBING COMPANY	1768 EMPIRE CENTRAL ST	DALLAS	75235	3419300	100-499	50
UNIVERSAL CARRIER CO INC	613 EASY ST	GARLAND	75042	2768335	100-499	34
UNIVERSITY OF DALLAS	1845 E NORTHGATE DR	IRVING	75062	7215000	100-499	82
UNIVERSITY OF TEXAS AT DALLAS	2601 N FLOYD RD	RICHARDSON	75083	6902111	1000+	82
UVALDE CONSTRUCTION CO	2645 IRVING BLVD	DALLAS	75207	6311750	100-499	17
V M A SUPPLY COMPANY	300 DECKER DR	IRVING	75062	6504444	100-499	87
V M X INC	17217 WATERVIEW PKY	DALLAS	75252	9073000	100-499	48
VARCO SEMICONDUCTOR INC	2800 W KINGSLEY RD	GARLAND	75041	2718511	1000+	36
VAREL MANUFACTURING CO	9230 DENTON DR PO BOX 540157	DALLAS	75235	3516486	100-499	35
VARO INC	3609 MARQUIS DR	GARLAND	75042	4874828	100-499	36
VARO INC SYSTEMS DIV	2800 W KINGSLEY RD	GARLAND	75046	8405000	1000+	36
VARO INCORPORATED	2800 W KINGLSEY RD	GARLAND	75041	4874100	1000+	36
VARO QUALITY SMCNDCTR	1000 N SHILOH	GARLAND	75042	4874327	100-499	36
VHA ENTERPRISES INC	5215 N O'CONNOR RD	IRVING	75039	8300050	100-499	87
VICTOR DUNCAN INC	6305 N OCONNOR RD # 100	IRVING	75039	8690200	100-499	50
VIRIGINIA K M P CORP	4100 PLATINUM WAY	DALLAS	75237	3307731	100-499	35
W T WHITE HIGH SCHOOL	4505 RIDGESIDE DR	DALLAS	75244	3088900	100-499	82
W W SAMUELL HIGH SCHOOL	8928 PALISADE DR	DALLAS	75217	3097040	100-499	82
WALKER ENGINEERING INC	10999 PETAL ST	DALLAS	75238	3495900	100-499	17
WANG LABORATORIES INC	1420 E ROCHELLE BLVD # 300	IRVING	75039	8693113	100-499	73
WASTE MANAGEMENT	3920 SINGLETON BLVD	DALLAS	75212	6374310	100-499	73
WATSON ELECTRIC SUPPLY	320 S WALTON ST PO BOX 159002	DALLAS	75226	7428441	100-499	50
WATSON FOOD SERVICE	3712 HAGGAR WAY	DALLAS	75209	3503561	100-499	50
WEEKLEY HOMES INC	3010 L B JOHNSON FWY # 1420	DALLAS	75234	2438414	100-499	15
WEISER SECURITY SERVICES	1425 GREENWAY DR # 501	IRVING	75038	5500970	100-499	73

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Appendix C
North Central Texas Employer Listing

COUNTY=DALLAS
(continued)

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
WESTERN MERCHANDISERS	2301 CHOVANETZ CT	IRVING	75038	5500323	100-499	50
WESTERN UNION	100 N CENTRAL EXPY # 600	DALLAS	75201	9391910	100-499	48
WESTINGHOUSE ELEC CORP	8400 JOHN W CARPENTER FWY	DALLAS	75247	6311800	100-499	50
WHITEHALL CORP	2659 NOVA DR PO BOX 29709	DALLAS	75229	2478747	100-499	36
WILLIAMS INSULATION	3314 FOREST LN	GARLAND	75042	9887214	100-499	17
WILMER SERVICE LINE	1010 AVENUE J EAST	GRAND PRAIRIE	75050	3404888	100-499	50
WOODROW WILSON HIGH SCHOOL	100 S GLASGOW DR	DALLAS	75214	8415100	100-499	82
WYATT COMPANY	2121 SAN JACINTO ST # 2400	DALLAS	75201	9783400	100-499	87
XEROX CORP	222 W LAS COLINAS BLVD	IRVING	75039	8930893	1000+	50
XEROX CORPORATION	222 W LAS COLINAS BLVD	IRVING	75039	8930893	1000+	36
ZACHRY CONSTRUCTION CO	D FW AIRPORT S 33RD ST	DALLAS	75261	4560931	100-499	16
ZENO PRODUCTS INC	2331 W NW HWY	DALLAS	75220	9567086	100-499	50
ZODECON CORP	12005 FORD RD	DALLAS	75234	2432321	100-499	28
ZYTRON CORP	8617 AMBASSADOR ROW	DALLAS	75247	6308371	100-499	73

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North Central Texas Employer Listing

COUNTY=DENTON

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
A O CALHOUN JUNIOR HIGH SCHOOL	709 W CONGRESS ST	DENTON	76201	3878566	100-499	82
ACCELERATED CHRISTIAN EDUC	2600 ACE LN PO BOX 1438	LEWISVILLE	75067	3151776	100-499	82
AMERICAN TELEMARKETING SPEC	3168 E OAK	DENTON	76201	5659415	100-499	73
ANDREW CORP	2701 S MAYHILL RD	DENTON	76205	5662400	500-999	50
BOEING DEFENSE ELECTRONICS INC	7801 S SIMMONS FWY	LAKE DALLAS	75065	4977600	100-499	36
C B S MECHANICAL INC	5001 W UNIVERSITY DR	DENTON	76201	3877568	100-499	17
CENTRAL ELEMENTARY SCHOOL	400 HIGH SCHOOL DR	LEWISVILLE	75057	4363841	100-499	82
DENTON HIGH SCHOOL	1007 FULTON ST	DENTON	76201	3829611	100-499	82
DENTON RECORD CHRONICLE	314 E HICKORY ST PO BOX 369	DENTON	76202	3873811	100-499	73
G T E SOUTHWEST	3827 NORSE ST	DENTON	76202	3832511	100-499	87
INCA METAL PRODUCTS CORP	501 E PURNELL ST	LEWISVILLE	75067	4365581	100-499	50
KRUM HIGH SCHOOL	HWY 1173 PO BOX 158	KRUM	76249	4823204	100-499	82
LEWISVILLE SENIOR HIGH SCHOOL	1098 W MAIN ST	LEWISVILLE	75067	2213535	100-499	82
MARC INC	1700 WILSHIRE DR	DENTON	76201	5666668	100-499	87
MARCUS SENIOR HIGH SCHOOL	5707 MORRISS RD	LEWISVILLE	75028	5391591	100-499	82
PETERBILT MOTORS CO	3200 AIRPORT RD PO BOX 550	DENTON	76205	5667100	1000+	37
RED RIVER BLDG PRODUCTS	720 HWY 121 E PO BOX 2990	LEWISVILLE	75067	4361581	100-499	34
SALLY BEAUTY COMPANY INC	3900 NORSE ST	DENTON	76205	8987500	1000+	50
SUMMERALL-BEAUCHAMP WHOLESALE	810 S MAIN ST PO BOX 1281	DENTON	76202	8721571	100-499	73
TETRA PAKI INC	3300 AIRPORT RD	DENTON	76205	5658800	100-499	35
TEXAS INSTRUMENTS	PO BOX 2788	DENTON	76202	3812000	500-999	36
TEXAS INSTRUMENTS INC	2501 S HWY 121 PO BOX 405	LEWISVILLE	75067	4624111	1000+	36
TEXAS WOMAN'S UNIVERSITY	1219 OAKLAND ST PO BOX 22999	DENTON	76204	8982000	1000+	82
THE COLONY SENIOR HIGH SCHOOL	4301 BLAIR OAKS DR	THE COLONY	75056	6259000	100-499	82
TURBO REFRIGERATING CO	1815 SHADY OAKS DR PO BOX 396	DENTON	76205	3874301	100-499	35
UNIVERSITY OF NORTH TEXAS	1500 W MULBERRY PO BOX 13497	DENTON	76201	5652000	1000+	82
VICTOR EQUIPMENT CO	2800 AIRPORT RD	DENTON	76205	5662000	500-999	35
W M I SREVICES-MODULARIE	1601 WASTE MANAGEMENT BLVD	LEWISVILLE	75067	4347977	100-499	49
WEAVER MFG CO	3101 JUSTIN RD	LEWISVILLE	75028	5391537	100-499	34

COUNTY=ELLIS

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
AGRICULTURE WAREHOUSE INC	2801 OAK GROVE RD	ENNIS	75119	8750080	100-499	73
ATCO PRODUCTS INC	601 I 45 S	FERRIS	75125	2258178	100-499	34
ATLAS SOUND PLANT 2	1601 JACK MA KAY BLVD	ENNIS	75119	8758413	100-499	36
CODY CO INC	4200 N HWY 75	ENNIS	75119	8755884	100-499	34
ELK CORPORATION OF TEXAS	202 CEDAR RD	ENNIS	75119	8759611	100-499	29
ENNIS AUTOMOTIVE INC	2400 N PRESTON ST	ENNIS	75119	8753896	100-499	37
ENNIS BUSINESS FORMS	107 N SHERMAN ST	ENNIS	75119	8756581	1000+	35
ENNIS HIGH SCHOOL	1405 LAKE BARDWELL DR	ENNIS	75119	8759011	100-499	82
FOSTER-FORBES GLASS DIV	2400 I 35 E	WAXAHACHIE	75165	9373430	100-499	50
JOY PETROLEUM EQUIPMENT	BUSINESS HWY 287 E	WAXAHACHIE	75165	9373640	100-499	35
LEGGETT AND PLATT INC	107 E WACO ST	ENNIS	75119	8758401	100-499	34
LOFLAND COMPANY	4100 N 35 E	WAXAHACHIE	75165	9376620	100-499	17
TYLER REFRIGERATION CORP	824 CIRCLE ST PO BOX 597	WAXAHACHIE	75165	9371820	100-499	35
WAXAHACHIE HIGH SCHOOL	1100 N DALLAS HWY	WAXAHACHIE	75165	9376800	100-499	82

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North Central Texas Employer Listing

COUNTY=ERATH

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
APPLETON ELECTRIC CO	2150 S LOOP	STEPHENVILLE	76401	9686071	100-499	36
DUBLIN ISD SCHOOL	407 N CAMDEN ST PO BOX D	DUBLIN	76446	4453341	100-499	82
FMC CORP FLUID CONTROL	2825 W WASHINGTON PO BOX 1377	STEPHENVILLE	76401	9682181	100-499	34
TARLETON STATE UNIVERSITY	TARLETON STA PO BOX T1059	STEPHENVILLE	76401	9689000	500-999	82

Appendix C
North Central Texas Employer Listing

COUNTY=HILL

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
FLOWERS CONSTRUCTION INC	HWY 81 S PO BOX 1207	HILLSBORO	76645	5822501	100-499	16
HILL COLLEGE	111 LAMAR DR PO BOX 619	HILLSBORO	76645	5822555	100-499	82

Appendix C
North Central Texas Employer Listing

COUNTY=HOOD

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
ECKERD EXPRESS PHOTO	1432 HWY 377 E	GRANBURY	76048	5731832	100-499	73
GRANBURY HIGH SCHOOL	2000 W PEARL ST	GRANBURY	76048	5738815	100-499	82

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North Central Texas Employer Listing

COUNTY=HUNT

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
DOW CONSUMER PRODUCTS	1001 ED RUTHERFORD RD	GREENVILLE	75401	4559472	100-499	28
EAST TEXAS STATE UNIVERSITY	EAST TEXAS STA	COMMERCE	75428	8865081	1000+	82
ESCO MFG CO	3200 FRONTAGE RD PO BOX 1039	GREENVILLE	75401	4556234	100-499	36
GREENVILLE INTERMEDIATE SCHOOL	3201 STANFORD ST	GREENVILLE	75401	4572660	100-499	82
GREENVILLE SR HIGH SCHOOL	3515 LIONS LAIR RD	GREENVILLE	75401	4572550	100-499	82
MEDICAL BILLING MGMT	4000 WESLEY ST	GREENVILLE	75401	4556767	100-499	87
US BRASS	HWY 11 PO BOX 1031	COMMERCE	75428	8862580	100-499	34
WALKER-MC DONALD MFG CO	7101 I HWY 30 PO BOX 8808	GREENVILLE	75401	4556627	100-499	35

Appendix C
North Central Texas Employer Listing

COUNTY=JOHNSON

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
BURLESON HIGH SCHOOL	517 SW JOHNSON AVE	BURLESON	76028	4475700	100-499	82
CLEBURNE HIGH SCHOOL	1501 HARLIN DR	CLEBURNE	76031	6416641	100-499	82
GEARHART INDUSTRIES INC	MAPLE AVE	ALVARADO	76009	7833307	100-499	35
JET RESEARCH CENTER INC	2001 SOUTH I 35	ALVARADO	76009	7835111	100-499	50
SOUTHWESTERN ADVENTIST COLLEGE	PO BOX 567	KEENE	76059	6453921	100-499	82
TEXAS LIME CO	STATE PARK RD 21 PO BOX 851	CLEBURNE	76031	6414433	100-499	50
THOMAS CONVEYOR CO	555 HWY 35 S PO BOX 2916	BURLESON	76028	2957151	100-499	35

Appendix C
North Central Texas Employer Listing

COUNTY=KAUFMAN

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
CRANDALL HIGH SCHOOL	LEWIS & 1ST ST PO BOX 520	CRANDALL	75114	4723910	100-499	82
FALCON STEEL CO	1200 RAND RD PO BOX 269	KAUFMAN	75142	9322157	100-499	34
PRECISIONAIRE	100 HWY 148 S	TERRELL	75160	5631545	100-499	35
TITUS	800 AIRPORT RD	TERRELL	75160	5632605	100-499	35
VISTAWALL	803 AIRPORT RD PO BOX 629	TERRELL	75160	2261951	100-499	34

Appendix C
North Central Texas Employer Listing

COUNTY=MCLENNAN

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
ALTERNATIVE SCHOOL-TSTI	3801 CANPUS DR	WACO	76705	7993611	500-999	82
AMERICAN BUILDING MNTNC	1921 S 1ST ST	WACO	76706	7533167	100-499	73
BAYLOR UNIVERSITY	500 SPEIGHT ST	WACO	76798	7551011	1000+	82
BRAZOS ROOFING INTERNATIONAL	207 TENNESSEE	WACO	76707	7521689	100-499	17
CENTEX SANITATION SVC	HWY 317 PO BOX 475	MC GREGOR	76657	8402892	100-499	73
COLORITE PLASTICS	700 JEWELL DR	WACO	76712	7726979	100-499	50
COMMAND-AIRE CORP	HWY 84/SPRING VLY PO BOX 7916	MC GREGOR	76657	8403244	100-499	17
CONNALLY ELEMENTARY SCHOOL	715 N RITA ST	WACO	76705	7994797	100-499	82
DEALERS ELECTRICAL SUPPLY	2320 COLUMBUS AVE PO BOX 2676	WACO	76702	7567251	100-499	50
ELECTROSPACE SYSTEMS INC	7500 MAEHR RD PO BOX 154580	WACO	76705	7995533	1000+	50
FAB-KNIT MANUFACTURING	1415 N 4TH ST PO BOX 326	WACO	76707	7522511	100-499	50
HERCULES INC	1101 JOHNSON DR PO BOX 548	MC GREGOR	76657	8402811	500-999	28
HUCK MANUFACTURING CO	8001 IMPERIAL DR	WACO	76712	7762000	100-499	34
K-D MANITOU INC	3120 GHOLSON RD PO BOX 154009	WACO	76705	7990232	100-499	35
KIRSCH CO	PO BOX 4186	WACO	76705	7995523	100-499	34
KWTX-TV	6700 AMERICAN PLZ PO BOX 2636	WACO	76712	7761330	100-499	48
LLOYD PLYLER CONSTR INC	700 AUSTIN AVE	WACO	76701	7527555	100-499	36
LOCHRIDGE-PRIEST INC	225 LAKE AIR DR	WACO	76710	7720670	100-499	17
LONE STAR GAS CO	901 WASHINGTON ST PO BOX 1670	WACO	76701	7523471	100-499	49
LONGHORN ENVIRONMENTAL SYSTEMS	PO BOX 11368	WACO	76716	6626120	100-499	17
MARATHON BATTERY CO	8301 IMPERIAL DR PO BOX 8233	WACO	76712	7760650	100-499	36
MCLENNAN COMMUNITY COLLEGE	1400 COLLEGE DR	WACO	76708	7566551	100-499	82
MIDWAY HIGH SCHOOL	700 HEWITT DR	HEWITT	76643	6665151	100-499	82
MIDWAY JUNIOR HIGH SCHOOL	9115 WOODWAY DR	WACO	76712	7724412	100-499	82
MOSLEY MACHINE CO INC	3215 OLD DALLAS RD PO BOX 1552	WACO	76703	7992494	100-499	35
NATIONAL PUBLIC SERVICE	425 AUSTIN AVE PO BOX 2549	WACO	76701	7526142	100-499	63
PACKLESS INDUSTRIES	8401 IMPERIAL DR PO BOX 20668	WACO	76712	6667700	100-499	35
PERRY CO	500 S VALLEY MILLS PO BOX 7187	WACO	76710	7562137	100-499	35
PMS INC	8300 CENTRAL PARK PO BOX 2505	WACO	76712	7763260	100-499	73
SEARS ROEBUCK AND CO	6001 W WACO DR PO BOX 7600	WACO	76710	7515300	100-499	50
SMI INTERNATIONAL INC	1600 LAKE AIR DR	WACO	76710	7579684	100-499	36
SUCCESS MOTIVATION INST	5000 LAKEWOOD DR PO BOX 2508	WACO	76710	7761230	100-499	87
TIME MANUFACTURING CO	7601 IMPERIAL DR	WACO	76702	7760900	100-499	35
U S VETERANS ADM MEDICAL CTR	4800 MEMORIAL DR	WACO	76711	7526581	1000+	91
VAN TRAN ELECTRIC CORP	7711 IMPERIAL DR PO BOX 20128	WACO	76712	7729740	100-499	36
WACO CONSTRUCTION INC	6011 BOSQUE BLVD PO BOX 3216	WACO	76710	7723660	100-499	15
WACO HIGH SCHOOL	2020 N 42ND ST	WACO	76710	7761150	100-499	82

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North Central Texas Employer Listing

COUNTY=NAVARRO

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
GRANDOR CORPORATION	909 S 12TH ST PO BOX 1560	CORSICANA	75110	8726571	100-499	35
NAVARRO COLLEGE	3200 W 7TH AVE	CORSICANA	75110	8746501	100-499	82
R E MABLE COMPANY	1804 HWY 75 S	CORSICANA	75110	8728221	500-999	15

Appendix C
North Central Texas Employer Listing

COUNTY=PALO PINTO

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
BRAZOS GAS COMPRESSING	2700 SW 5TH AVE PO BOX 790	MINERAL WELLS	76067	3251321	100-499	29
CAN-TEX INDUSTRIES	2101 SE 1ST ST	MINERAL WELLS	76067	3253344	100-499	50
NEPCO/ELECTRA INC	AIRPORT RD PO BOX 760	MINERAL WELLS	76067	3257871	100-499	36
MINERAL WELL HIGH SCHOOL	3801 RAM BLVD	MINERAL WELLS	76067	3254408	100-499	82
OP-TEK TECHNOLOGY	832 FORT WOLTERS	MINERAL WELLS	76067	3250724	100-499	36
PERRY EQUIPMENT CORP	PO BOX 640	MINERAL WELLS	76067	3252575	100-499	35

Appendix C
North Central Texas Employer Listing

COUNTY=PARKER

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
CHEMICALS DYNAMICS	610 W 3RD ST	WEATHERFORD	76086	5945464	100-499	34
WEATHERFORD COLLEGE	308 E PARK AVE	WEATHERFORD	76086	5945471	100-499	82
WEATHERFORD HIGH SCHOOL	1007 S MAIN ST	WEATHERFORD	76086	5982858	100-499	82

Appendix C
North Central Texas Employer Listing

COUNTY=ROCKWALL

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
LONE STAR GAS CO	1203 BETA CT	ROCKWALL	75087	7718366	1000+	49

Appendix C
North Central Texas Employer Listing

COUNTY=SOMERVELL

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
BROWN & ROOT INC		GLEN ROSE	76043	8974881	1000+	15

COUNTY=TARRANT

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
A A R P OPTICAL SERVICES	5050 E BELKNAP ST	FORT WORTH	76117	8383223	100-499	50
A B B IMPELL CORPORATION	6500 WEST FWY # 400	FORT WORTH	76116	7380300	100-499	87
AEROSPACE TECHNOLOGIES	7445 E LANCASTER AVE	FORT WORTH	76112	4297412	100-499	37
AGENTS PROCESSING SYSTEMS INC	5701 E LOOP 820 S	FORT WORTH	76119	4830007	100-499	63
ALCON LABORATORIES INC	6201 SOUTH FWY	FORT WORTH	76134	2930450	1000+	50
ALLIED ELECTRONICS	7410 PEBBLE DR	FORT WORTH	76118	5953500	100-499	50
AMERICAN AIRLINES DIRECT	4201 CAMBRIDGE RD	FORT WORTH	76155	3558200	1000+	73
AMERICAN AUTO SPRINKLER	600 S DE COSTA ST PO BOX 7705	FORT WORTH	76111	8310366	100-499	50
AMERICAN SVC TELEMARKET	300 N BAILEY AVE	FORT WORTH	76107	8701017	100-499	73
AMR CORP	4333 AMON CARTER BLVD	FORT WORTH	76155	3551234	1000+	73
ANADITE AEROSPACE PROD	711 W HURST BLVD PO BOX 547	HURST	76053	2829171	100-499	34
ARLINGTON HEIGHTS HIGH SCHOOL	4501 W ROSEDALE ST	FORT WORTH	76107	7386564	100-499	82
ARLINGTON TELECABLE	2421 MATLOCK RD	ARLINGTON	76015	2657766	100-499	48
ARTHUR YOUNG & CO	2200 TEAM BANK BLDG	FORT WORTH	76102	3351900	100-499	87
AUSTIN PAVING	550 BAILEY AVE # 200	FORT WORTH	76107	3362373	500-999	17
AZTEC MANUFACTURING CO	400 N TARRANT ST PO BOX 668	CROWLEY	76036	2974361	100-499	34
BACKLOG TEMPORARIES INC	461 S JENNINGS AVE	FORT WORTH	76104	3322225	100-499	73
BASS ENTERPRISES PROD CO	201 MAIN ST	FORT WORTH	76102	3908400	100-499	13
BELL HELICOPTER TEXTRON INC	600 E HURST BLVD	HURST	76053	2802011	1000+	37
BELL HIGH SCHOOL	1601 BROWN TRL	HURST	76054	2822551	100-499	82
BEN HOGAN COMPANY	2912 W PAFFORD ST	FORT WORTH	76110	9212661	500-999	50
BEN HOGAN COMPANY	3500 WEST FWY	FORT WORTH	76107	7319000	100-499	50
BESTEEL METAL BLDG SYSTS	3421 N SYLVANIA AVE	FORT WORTH	76111	8311205	100-499	15
BIG 4 AUTOMOTIVE INC	512 S JENNINGS AVE	FORT WORTH	76104	3323171	100-499	50
BLACKMON-MOORING-STEAMATIC	1000 FOREST PARK BLVD	FORT WORTH	76110	9268251	100-499	76
BMS ENTERPRISES INC	1000 FOREST PARK BLVD	FORT WORTH	76110	9265214	100-499	73
BOYLES GALVANIZING CO	625 W HURST BLVD	HURST	76053	2680713	100-499	34
BUFFTON CORP	201 MAIN ST	FORT WORTH	76102	3324761	1000+	34
CARTER & BURGESS INC	100 N FOREST PARK	FORT WORTH	76102	3352611	100-499	87
CENTENNIAL HOMES INC	5429 BRYCE CANYON DR	FORT WORTH	76137	4982712	100-499	15
CHAMPION PARTS REBLDRS	200 W VICKERY PO BOX 1866	FORT WORTH	76104	3369741	500-999	37
CHANNEL 5 K X A S TV N B C	3900 BARNETT ST	FORT WORTH	76103	5365555	100-499	48
CHROMALLOY PRECISION PRODUCTS	3524 RAIDER DR	HURST	76053	2834681	100-499	37
CITY OF BEDFORD	2000 FOREST RIDGE DR	BEDFORD	76021	2674341	100-499	92
COLD CONSTRUCTORS INC	4201 JANADA ST PO BOX 14248	HALTOM CITY	76117	2815121	100-499	50
CONVEYING MACHINERY CO	811 S 4TH ST PO BOX 193	MANSFIELD	76063	4772104	100-499	35
CONVEYOR CORP-AMERICA	2300 W RISINGER RD	FORT WORTH	76134	2942020	100-499	35
CONVEYORS INC	620 S 4TH AVE	MANSFIELD	76063	4773151	100-499	35
CUMMINS SALES/SERVICE	600 N WATSON RD	ARLINGTON	76011	6406801	100-499	50
D & D FOUNDATION CONTRS	2428 THOMAS RD	FORT WORTH	76117	8386014	100-499	15
DATA MEDICAL ASSOCIATES	845 E AVENUE G	ARLINGTON	76011	2658481	100-499	28
DAYCO PRODUCTS-EAGLE MOTIVE	3400 NORTHERN CROSS BLVD	FORT WORTH	76137	8317100	100-499	50
DAYCO PRODUCTS-EAGLEMOTIVE INC	3400 NRTHRN CROSS PO BOX 2508	FORT WORTH	76137	4299111	100-499	50
DECISION ANALYST INC	2221 E LAMAR BLVD # 500	ARLINGTON	76006	6406166	100-499	87
DERR CONSTRUCTION CO	13400 TRINITY BLVD	EULESS	76040	5714044	100-499	17
DEXIDE INC	7509 FLAGSTONE DR	FORT WORTH	76118	5891454	100-499	50
DUNBAR HIGH SCHOOL	5700 RAMEY AVE	FORT WORTH	76112	4519211	100-499	82
EASTERN HILLS HIGH SCHOOL	5701 SHELTON ST	FORT WORTH	76112	4512814	100-499	82
EDWARD BLANK ASSOCIATES INC	400 S INDUSTRIAL BLVD	EULESS	76040	3558100	100-499	73
ELECTROCOM AUTOMATION	2910 AVENUE F	ARLINGTON	76011	6405690	500-999	35
ESCO ELEVATORS INC	4720 ESCO DR PO BOX 445	FORT WORTH	76140	4784251	100-499	17
FALCON STEEL CO	4201 OLD DENTON RD	HALTOM CITY	76117	5819500	100-499	17
FAULK COMPANY	1701 RIVER RUN RD BASEMENT	FORT WORTH	76107	3329157	100-499	73
FORT WORTH CONTAINER	6600 WILL ROGERS BLVD	FORT WORTH	76140	5513100	100-499	34
FORT WORTH LIBRARY	300 TAYLOR ST	FORT WORTH	76102	8707705	100-499	91
FORT WORTH STATE SCHOOL	5000 CAMPUS DR	FORT WORTH	76119	5344831	1000+	82
FREESE AND NICHOLS INC	811 LAMAR ST	FORT WORTH	76102	3367161	100-499	87
FREIGHT MASTER	8600 WILL ROGERS BLVD	FORT WORTH	76140	2934220	100-499	37
FRIGETTE CORPORATION	1200 W RISINGER RD	FORT WORTH	76134	2935313	100-499	35
FT WORTH STEEL/MACHINERY	3600 MCCART AVE	FORT WORTH	76110	9244255	100-499	34
GENERAL BUILDING MNTNC CO	3853 E 1ST ST	FORT WORTH	76111	8348164	100-499	73
GEORGIA-PACIFIC CORP	5703 CRAWFORD LN PO BOX 15310	FORT WORTH	76119	5313941	100-499	28
GRAPEVINE HIGH SCHOOL	3223 MUSTANG DR	GRAPEVINE	76051	4889596	100-499	82
HALLIBURTON LOGGING SERVICES	1100 EVERMAN RD PO BOX 1936	FORT WORTH	76140	2931300	1000+	50
HALTOM HIGH SCHOOL	5501 N HALTOM RD	FORT WORTH	76137	5815300	100-499	82
HAMILTON FORM CO INC	7009 MIDWAY RD	FORT WORTH	76118	5892141	100-499	34
HARRIS GRAPHICS CORP	501 S DICK PRICE RD	KENNEDALE	76060	4785431	100-499	35
HELICO INTERNATIONAL INC	5101 BLUE MOUND RD	FORT WORTH	76106	6254106	100-499	34
HOWELL INSTRUMENTS INC	3479 W VICKERY BLVD	FORT WORTH	76107	3367411	100-499	36
HYDRA-RIG INC	6000 E BERRY ST	FORT WORTH	76119	4573825	100-499	35
IMPERIAL TOOLING & MFG INC	941 AVENUE G E	ARLINGTON	76011	6407747	100-499	35
INSIDE FORT WORTH	3479 W VICKERY BLVD	FORT WORTH	76107	7322308	100-499	73
INTERNATIONAL AVIATION ACAD	300 W ARBROOK BLVD	ARLINGTON	76014	7847000	100-499	82
INTERNATIONAL MUSIC CO	1316 E LANCASTER AVE	FORT WORTH	76102	3365114	100-499	50
J L BERTRAN CONSTRUCTION INC	1007 HARRISON AVE	ARLINGTON	76011	2612991	100-499	16
J L STEELE INC	8208 NORTHEAST PKY # 123	FORT WORTH	76180	4986293	100-499	17
J P T ENTERPRISES	1104 COLORADO LN	ARLINGTON	76015	4612571	100-499	17
K P M G PEAT MARWICK	301 COMMERCE ST # 2500	FORT WORTH	76102	3352655	100-499	87

Appendix C
North Central Texas Employer Listing

COUNTY=TARRANT
(continued)

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
KELLER HIGH SCHOOL	101 INDIAN TRAIL DR	KELLER	76248	4312585	100-499	82
KELLY-MOORE PAINT CO INC	301 W HURST BLVD	HURST	76053	2683131	100-499	28
KERR GLASS MANUFACTURING CORP	315 W GREAT SW PWY	ARLINGTON	76011	6400983	100-499	34
KERR GLASS MFG CORP	315 GREAT SOUTHWEST PKY	ARLINGTON	76011	6400984	100-499	34
LAIDLAW WASTE SYSTEMS	6400 ELLIOTT REEDER RD	FORT WORTH	76117	3327301	100-499	49
LASKO METAL PRODUCTS	1700 MEACHAM BLVD	FORT WORTH	76106	6256381	100-499	36
LECTRIC LITES CO	5600 MIDWAY RD	FORT WORTH	76117	8310961	100-499	15
LENNOX INDUSTRIES INC	391 W BEACH ST	FORT WORTH	76111	8310071	500-999	50
LENNOX INDUSTRIES INC	4500 AIRPORT FWY	FORT WORTH	76117	8310931	500-999	35
LEWIS/LAMBERT MTL CONTRS	5936 EDEN DR PO BOX 14439	FORT WORTH	76117	8347146	100-499	34
LON SMITH ROOFING	904 WAGGOMAN ST	FORT WORTH	76110	9268400	100-499	17
LONE STAR GAS COMPANY	908 MONROE ST	FORT WORTH	76102	3368381	100-499	49
LONE STAR MANUFACTURING	1900 SE LOOP 820 PO BOX 40870	FORT WORTH	76140	2934600	500-999	17
LOOKS OFFICE FURNITURE LEASING	918 E 113TH ST	ARLINGTON	76011	6409582	100-499	50
M & M MANUFACTURING CO	200 ADOLPH ST	FORT WORTH	76107	3362311	100-499	17
MANSFIELD HIGH SCHOOL	1520 W WALNUT CREEK DR	MANSFIELD	76063	4735660	100-499	82
MARTIN HIGH SCHOOL	4501 W PLEASANT RIDGE RD	ARLINGTON	76016	4830400	100-499	82
MARTIN SPROCKET/GEAR CO	3100 SPROCKET DR PO BOX 91588	ARLINGTON	76015	4656377	100-499	35
MAYFIELD BUILDING SUPPLY CO	3403 E ABRAM ST PO BOX 398	ARLINGTON	76010	6401234	100-499	50
MC DONNELL DOUGLAS	3901 AIRPORT FWY	BEDFORD	76021	2676898	100-499	87
MERIDIAN OIL INC	801 CHERRY ST # 200	FORT WORTH	76102	3472000	500-999	13
MESCO METAL BUILDING	400 N KIMBALL AVE	SOUTHLAKE	76092	4888511	100-499	15
MICHAEL JAMES DESIGN ASSOCS	701 W HIGHLANDER BLVD	ARLINGTON	76015	4677770	100-499	73
MID-TEXAS MANUFACTURING CO	1511 S SYLVANIA AVE	FORT WORTH	76111	3353276	100-499	34
MILLTRONICS INC	709 STADIUM DR E	ARLINGTON	76011	2773543	100-499	36
MORNINGSIDE ELEMENTARY SCHOOL	2601 EVANS AVE	FORT WORTH	76104	9278489	100-499	82
MOTOROLA INC	5555 W BEACH ST	FORT WORTH	76137	2326000	500-999	36
MPI INC	1301 COLD SPRINGS RD	FORT WORTH	76102	3357676	100-499	28
M & T REMODELING/CONSTR	25290 MINNIS DR	FORT WORTH	76117	8314452	100-499	15
N C R CORPORATION	5750 N RIVERSIDE DR	FORT WORTH	76137	8472000	100-499	50
NATIONAL GUARDIAN SEC	7434 TOWER ST	FORT WORTH	76118	5892381	100-499	50
NATIONAL SEMICONDUCTOR	1111 W BARDIN RD	ARLINGTON	76017	4686300	500-999	36
NORTH TEXAS STEEL CO INC	412 W BOLT ST PO BOX 2497	FORT WORTH	76113	9275333	100-499	17
NTS INC	2821 LACKLAND RD PO BOX 921002	FORT WORTH	76121	7318721	100-499	87
O D WYATT HIGH SCHOOL	2400 E SEMINARY DR	FORT WORTH	76119	5313671	100-499	82
OIL STATES INDS INC	7701 S COOPER ST PO BOX 670	ARLINGTON	76017	4681400	100-499	35
OWEN OIL TOOLS INC	8900 FORUM WAY	FORT WORTH	76140	5510540	100-499	50
OZARKA DRINKING WATER	4250 CAMBRIDGE RD	FORT WORTH	76155	3549526	100-499	28
PASCHAL HIGH SCHOOL	3001 FOREST PARK BLVD	FORT WORTH	76110	9265463	100-499	82
PEGASUS FLIGHT CENTER	4100 W MAIN ST # 239	FORT WORTH	76106	6257257	100-499	82
PENGO INDUSTRIES RSRCS	100 E 15TH ST	FORT WORTH	76102	8770255	100-499	28
PENWOOD WIRELINE SERVICE	7450 WINSCOTT RD	BENBROOK	76126	2497200	100-499	13
PIER 1 IMPORTS	301 COMMERCE ST # 600	FORT WORTH	76102	8788000	1000+	50
PITNEY BOWES	700 NORTH FWY	FORT WORTH	76102	3364088	100-499	50
POLYTECHNIC HIGH SCHOOL	1300 CONNER AVE	FORT WORTH	76105	5361931	100-499	82
PRESSED METAL PRODUCTS	9332 SOUTHWEST DR PO BOX 40870	FORT WORTH	76140	5517200	100-499	35
PRO STAFF PERSONNEL SERVICES	860 AIRPORT FWY	HURST	76054	4984488	100-499	73
PROGRESSIVE INC	1030 COMMERCIAL BLVD N	ARLINGTON	76017	4670031	100-499	37
PVI INDUSTRIES INC	3209 GALVEZ ST PO BOX 7124	FORT WORTH	76111	3359531	100-499	34
R E SWEENEY COMPANY INC	3700 MOBLE AVE PO BOX 1921	FORT WORTH	76111	8347191	100-499	50
RANTECH INC	1400 U S HWY 287 S	MANSFIELD	76063	2252704	100-499	15
RANTECH MODULAR DESIGN	1400 HWY 287 S	MANSFIELD	76063	4739376	100-499	15
REGION XI EDUCATION CENTER	3001 NORTH FWY	FORT WORTH	76106	6255311	100-499	82
RICHLAND HIGH SCHOOL	5201 HOLIDAY LN E	FORT WORTH	76180	5815400	100-499	82
ROSEMONT MIDDLE SCHOOL	1501 W SEMINARY DR	FORT WORTH	76115	9275364	100-499	82
S I E INC	7450 WINSCOTT RD	FORT WORTH	76126	2491391	100-499	35
S L S R B CONTRACTORS	105 S MAIN ST	FORT WORTH	76104	4290230	100-499	73
SCOTT POLYMERS INC	3607 W SYLVANIA AVE	FORT WORTH	76111	8313541	100-499	28
SKAGGS ALPHA BETA	2100 S COOPER ST	ARLINGTON	76013	2652261	100-499	73
SKAGGS ALPHA BETA	301 SOUTHWEST PLAZA SHPG CTR	ARLINGTON	76016	4784291	100-499	73
SMITH PROTECTIVE SVCS	3003 SHOTTS ST	FORT WORTH	76107	3327981	100-499	73
SNAPPER POWER EQUIPMENT	5000 SOUTH FWY	FORT WORTH	76115	9213611	500-999	35
SOUTHWEST BAPT SEMINARY	2101 YATES AVE	FORT WORTH	76115	4294971	100-499	82
SOUTHWEST HIGH SCHOOL	4100 ALTAMESA BLVD	FORT WORTH	76133	2923915	100-499	82
SOUTHWESTERN BAPTIST SCHOOL	2001 W SEMINARY PO BOX 22000	FORT WORTH	76115	9231921	500-999	82
SOUTHWESTERN PETROLEUM	534 N MAIN PO BOX 961005	FORT WORTH	76106	3322336	100-499	29
SPECIAL PROJECTS MFG CO	7601 WYATT DR	WHITE SETTLEMENT	76108	2462461	100-499	35
SPEED FAB-CRETE	1150 E MANSFIELD HWY	FORT WORTH	76119	4781137	100-499	17
SPINKS INDUSTRIES INC	1201 FORUM WAYS S	FORT WORTH	76140	2932140	100-499	37
STATE OF TEXAS EMPLOYMENT CMSN	301 W 13TH ST	FORT WORTH	76102	3355111	100-499	91
STATIONERS DISTRIBUTING	4055 INTERNATIONAL PLZ # 500	FORT WORTH	76109	7352900	100-499	50
STEVENS CORPORATION	5700 E BELKNAP ST	FORT WORTH	76117	8348111	100-499	50
STRATOFLEX	220 ROBERTS CUT OFF RD	FORT WORTH	76114	7386543	100-499	50
SUMMIT CABLE CONTRACTORS	1162 PIONEER PWY W	ARLINGTON	76013	2776995	100-499	48
T U ELECTRIC	115 W 7TH ST	FORT WORTH	76102	3369454	500-999	49
TANDY ELECTRONICS	200 COMMERCE ST	AZLE	76020	4442571	100-499	36
TANDY SOFTWARE ASSEMBLY	205 NW 7TH ST	FORT WORTH	76106	3361330	100-499	36

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Appendix C
North Central Texas Employer Listing

COUNTY=TARRANT
(continued)

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
TARRANT COUNTY JR COLLEGE DIST	1500 HOUSTON ST	FORT WORTH	76102	3384711	100-499	82
TARRANT COUNTY PSYCHIATRIC CTR	1527 HEMPHILL ST	FORT WORTH	76104	9236467	100-499	82
TDC DEFENSE SYSTEMS GRP	621 SIX FLAGS DR	ARLINGTON	76011	6407274	100-499	35
TEKNEKRON INFOSWITCH	4401 CAMBRIDGE RD	FORT WORTH	76155	3540661	100-499	36
TELECOMMUNICATIONS MARKETING	600 SIX FLAGS DR # 454	ARLINGTON	76011	6409676	100-499	73
TEXAS AMERICAN SERVICES INC	1900 L DON DODSON DR	BEDFORD	76021	8846000	500-999	73
TEXAS CHRISTIAN UNIVERSITY	2913 PRINCETON	FORT WORTH	76109	9217000	1000+	82
TEXAS COLLEGE-OSTEOPATHIC MED	3500 CAMP BOWIE BLVD	FORT WORTH	76107	7352000	500-999	82
TEXAS EXECUTIVE SERVICES	100 E 15TH ST # 630	FORT WORTH	76102	3328519	100-499	73
TEXAS WESLEYAN COLLEGE	1201 WESLEYAN ST	FORT WORTH	76105	5314444	100-499	82
TOTAL ASSETS PROTECTION INC	2301 E LAMAR BLVD # 500	ARLINGTON	76006	6408800	100-499	87
TRA TECH CORP	2800 GOLDEN TRIANGLE	SAGINAW	76131	2324900	100-499	37
TRACOR WESTRONICS	5001 BLUE MOUND RD	FORT WORTH	76106	6252311	100-499	50
TRANSPORT LIFE INSURANCE	714 MAIN ST	FORT WORTH	76102	3908000	500-999	63
TRINITY FORGE INC	947 TRINITY DR	MANSFIELD	76063	4731515	100-499	34
TRINITY HIGH SCHOOL	500 N INDUSTRIAL BLVD	EULESS	76039	5710271	100-499	82
TRINITY INDUSTRIES	3001 W PAFFORD	FORT WORTH	76110	9278421	100-499	35
TRINITY INDUSTRIES	500 E BAILEY BOSWELL RD	SAGINAW	76131	2323650	100-499	37
TRINITY INDUSTRIES INC	2548 NE 28TH PO BOX 7596	FORT WORTH	76111	6254161	100-499	17
TTI INC	4033 E BELKNAP ST	FORT WORTH	76111	8318300	100-499	50
TV LISTING INC	3201 NE LOOP 820 # 150	FORT WORTH	76137	8470980	100-499	73
UNION PACIFIC RESOURCES	801 CHERRY ST PO BOX 7	FORT WORTH	76101	8776000	500-999	29
UNITED ADVERTISING INC	2330 GRAVEL RD	FORT WORTH	76118	5955400	100-499	73
UNIVERSITY OF TEXAS	800 S COOPER ST	ARLINGTON	76019	2732101	1000+	82
VALEO CLIMATE CONTROL	4401 BLUE MOUND RD	FORT WORTH	76106	6246600	100-499	35
W PAT CROW FORGINGS INC	200 LUXTON ST	FORT WORTH	76104	5362861	100-499	34
WAGNER BRAKE CO	4801 MARK IV PKY	FORT WORTH	76106	6265404	100-499	50
WEAVER AND TIDWELL	307 W 7TH ST 15TH FLR	FORT WORTH	76102	3327905	100-499	87
WEDGWOOD MIDDLE SCHOOL	3909 WILKIE WAY	FORT WORTH	76133	2924311	100-499	82
WELDON MECHANICAL CORP	3428 W PIONEER PKY	ARLINGTON	76013	4601111	100-499	17
WESTERN CO-NORTH AMERICA	7700 WYATT DR	FORT WORTH	76108	7315100	100-499	35
WESTERN HILLS HIGH SCHOOL	3600 BOSTON AVE	FORT WORTH	76116	2443322	100-499	82
XACT INC	7201 INDUSTRIAL PARK BLVD	FORT WORTH	76180	5770832	500-999	50
XEROX CORPORATION	1200 SUMMIT AVE # 800	FORT WORTH	76102	8779500	100-499	50

Appendix C
North Central Texas Employer Listing

COUNTY-WISE

FIRM	ADDRESS	CITY	ZIP	PHONE	EMP	SIC
MITCHELL ENERGY CORP	2005 16TH ST	BRIDGEPORT	76426	6832233	100-499	13

Appendix D

SSC Technical Training Project Supplement to the Users' Manual for INTERLINK

Labor Market Information System
Version 1.2

dated May 1, 1991

Introduction

Interlink's PC-based Labor Market Information System (LMIS) software was adapted to accommodate the regional labor demand and statewide labor supply data developed for the SSC Technical Training Project. This Supplement to the Users' Manual for Interlink's LMIS, version 1.2, documents the resulting changes to the new system, referred to as the LMIS_SSC. The Supplement should be used in combination with the manual to operate and fully benefit from the LMIS_SSC.

Labor Market Data Bases

The LMIS_SSC labor demand data bases address the combined 16 counties of North Central Texas plus Hill and McClennan counties. The data provides actual employment figures for 1988 through 1990 and annual forecasts for 1991 through 2000. All labor demand data is processed to the three-digit SIC and five-digit OES code levels of analysis, as in the LMIS version 1.2.

The labor supply data inventories 1988-89 completers of occupationally specific vocational education programs in the community colleges and technical institutes throughout the state of Texas. No secondary program completers are reported nor are there any county level breakdowns for the region as was presented in previous LMIS software.

The reader is referred to the body of the report and Appendix E regarding further detail on the development of the SSC Technical Training Project labor market data bases.

Installation

Installation of the LMIS_SSC differs from version 1.2, as documented in section 1.5 of the Users' Manual. The steps needed to alter the CONFIG.SYS files remain as noted in sections 1.5.1, 1.5.1.1, and 1.5.1.2 on pages 1-7 through 1-8. However, this supplement replaces sections 1.5.2 through 1.6, pages 1-8 through 1-10, for the actual installation and command to run the SMIS_SSC.

The LMIS_SSC is installed from three high-density floppy disks. The first two contain the "sliced" version of the LIMS_SSC.EXE file and the third contains additional files needed to run the program. Thirteen steps are outlined below for the installatin of the LMIS_SSC from the floppy disks in drive "A" to a newly created directory on the hard disk "C" known as "LMIS_SSC". The actual entries to be typed by the user are noted in "bold".

Step 1 (In Root Directory)
C:> **MKDIR LMIS_SSC**

Step 2
C:> **CD LMIS_SSC**

Step 3 (insert "Disk 1" in "A" drive)
C:\LMIS_SSC> **A:**

Step 4
A:> **SPLICE A: C:**
(Insert "Disk 2" as indicated)

Step 5
A:> **C:**

Step 6
C:\LMIS_SSC> **LMIS_SSC**

Step 7
C:\LMIS_SSC> **DEL LMIS_SSC.EXE**

Step 8 (Insert "Disk 3" in "A" drive)
C:LMIS_SSC> **COPY A:DBASE_RT.EXE**

Step 9
C:\LMIS_SSC> **DBASE_RT**

Step 10
C:\LMIS_SSC> **DEL DBASE_RT.EXE**

Step 11
C:\LMIS.SSC> **COPY A: LMIS_SSC.BAT**

Step 12
C:\LMIS_SSC> **DEL LMGBL.MEM**

Step 13
C:\LMIS_SSC> **LMIS_SSC**

The "LMIS_SSC" command runs the system. Once the installatin is completed, there will be some initial hardware settings to select, as mentioned in section 1.7 of the Users' Manual. The user will be guided through this process on screen by menu.

Operation

The command to run this version of the system is "LMIS_SSC" rather than "LMIS", as stated in Section 1-6, page 1-10, of the manual. The only other change in operation concerns the options under the Labor Supply Reports module as reported in Section 4.2 of the manual. Due to the changes in the databases, LMIS_SSC has only two options to access the data in this module. The first is by CIP codes, as in version 1.2, and the second is by institution.

Report Displays

The Labor Demand and Supply Report screens have, of course, been modified to reflect the updated and extended years of data in the LMIS_SSC. Further, the Occupational Evaluation module, which links labor demand and supply data, has also been revised to accurately reflect the dates of the new data bases. Therefore, the examples noted in the Users' Manual will differ from the actual screen displays of the LMIS_SSC to the extent that the underlying data bases differ.

Conclusions

Interlink's LMIS was designed for general distribution and is generally very easy to use. This Supplement, in combination with the Users' Manual, should provide access to the full benefits of the LMIS_SSC version of the system, given the nominal changes in installation and operation procedures.

Appendix E

Technical Documentation of Regional Labor Demand and Statewide Labor Supply Data Bases

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SSC Technical Training Project

Updated/Expanded Labor-Market Information System

SOURCES AND USES OF DATA

Introduction

This paper describes the original sources of the data in the SSC LMIS, and how those data were transformed into the form ultimately used in the system. We describe first the labor-demand data, which is a very involved issue, and then the labor-supply (more correctly, program-completer) data, which are quite a bit simpler.

The SSC LMIS differs from the InterLink LMIS in several important characteristics:

- Its geographic extent includes Hill and McLennan counties (the Waco area) in addition to the Dallas and Fort Worth MSAs covered by the InterLink data. (As a result, its historical data are limited to 1988-1990, since earlier historical data for Hill and McLennan counties were unavailable.)
- Employment projections are made through the year 2000, not just 1995.
- Data on vocational-education program completers are provided for all state-supported post-secondary institutions in Texas, not just the 5 community and junior colleges in the InterLink region.
- Data are not provided for vocational-education program completers from secondary schools.

Labor-Demand Data

In this section of the paper we first list the external sources and give brief descriptions of how they were used. Then we present detailed descriptions of how these external data were transformed and combined to produce the final data contained in the SSC LMIS.

The main product of these manipulations was a database containing both historical (1988-1990) and forecast (1991-2000) SSC regional employment totals broken down by 2-digit SIC codes (SSC2D_HF.DBF). These data were then further broken down into 3-digit SIC codes and reassembled into OES-code totals.

In addition, 2-digit SIC data were developed for each of the 18 counties in the SSC region, and 3-digit SIC data and OES data were developed for Dallas and Tarrant counties. These county data are not contained in the SSC LMIS.

1. Major external data sources and summary of uses.

a. SICTOT02.DBF

This is the file of labor-demand data for 3-digit SIC (Standard Industrial Classification) codes from the InterLink LMIS, Version 1.2. It has historical annual data for 1984-1989 and forecast annual data for 1990-1995 (developed in 1990). It was used in the present effort to:

- o Identify the 2-digit SICs in the InterLink LMIS data;
- o Develop 2-digit SIC employment totals for the InterLink region for 1988;
- o Compute 2-digit SIC %s (relative to total employment)--these %s were applied to regional total-employment forecasts to obtain forecasts for 2-digit SIC sectors.

b. BLS 790 data

These are data prepared for the Dallas and Fort Worth MSAs by the Bureau of Labor Statistics from data provided by the Texas Employment Commission obtained from ES-202 forms filed by area employers. They show monthly employment totals for the two MSAs by major division in the SIC system (see the Users' Manual for the InterLink LMIS for a definition of the term "major division"), by most 2-digit SIC codes, and by a few 3-digit codes. These data were used to:

- o Develop 1990 totals for the Dallas and Fort Worth MSAs, and for the combined area;
- o Provide a basis for a linear-trend forecast.

c. CBP data

"CBP" stands for County Business Patterns. These data are published on an annual basis (the most recent being 1988) by the Bureau of the Census for each county in the U.S. Among other things the data include county employment totals for a date in March of the focal year by SIC major divisions, 2-digit codes, and some 3- and 4-digit codes. These data were used as follows:

- o To help develop 1988 data for Hill and McLennan counties;
- o To allocate some 1988 and 1990 data for the HOTLink Quality Workforce Planning Region to Hill and McLennan counties (jointly).

d. SOCRATES HOTLink data

SOCRATES is the computer system developed by the Texas State Occupational Information Coordinating Committee to support the work of the Quality Workforce Planning Committees (QWPCs) in the state. The version of SOCRATES delivered to each QWPC contains labor-demand data for that QWPC's region. Such data provided to the Heart of Texas QWPC, based in Waco (which calls itself HOTLink), were used to develop 1988 and 1990 data for Hill and McLennan counties. These are two of the six counties in the HOTLink region, and together with the major counties in the InterLink region make up the SSC impact region.

HOTLink provided these data in fax form, which were entered into a dBASE IV database for further use.

e. Judgments of the InterLink Board of Economists

As has occurred each year since InterLink's inception, a group of economists and other local-area experts met to review provisional employment projections, both for total area employment and for individual 2-digit SIC sectors. For the current effort this meeting took place on July 26, 1991.

The Board was presented with two alternative total-employment forecasts, about which more information is provided below, and chose one: a linear-trend projection from the historical data. The Board also reacted to 1991-1995 projections for the 20 largest 2-digit sectors, expressed as %s of total employment, and made consensus judgments as to the likely course of those percentage shares from 1991 through 2000.

2. Development of 1988 historical data (SSC2D88)

a. Use SICTOT02.DBF to produce InterLink LMIS component

The 3-digit SIC codes and 1988 data were first extracted from SICTOT02, creating LMIS88. (Henceforward, the extension ".DBF" will be omitted from the names of dBASE IV databases if the context makes it clear that the referenced file is that type.) Then A dBASE IV program was written to aggregate the 3-digit SIC employment totals in LMIS88 to the 2_digit level, producing a file called LMIS2D88.

b. Extract data from CBP databases

The records for Hill and McLennan counties were extracted in dBASE from the 1988 Texas database on a CD-ROM of CBP data distributed by

the Census bureau. All but the 2-digit SIC codes were then deleted from the two databases thus produced, leaving files called HILL2D and MCL2D.

c. Combine CBP and HOTLink SOCRATES data

A program called HILL_MCL was written to create a combined Hill-McLennan database (HILL_MCL), based on the 2-digit SIC codes in the HOTLINK file. For SICs that were found in either HILL2D or MCL2D, the component from that county of the employment value in HILL_MCL was the value from the CBP-based database for that county; if the HOTLINK SIC code was not found in one of the CBP databases, a proportion of the HOTLINK value was used: 5.64% for Hill County and 81.3% for McLennan. These percentages were based on the total 1988 CBP employment in the two counties, relative to the total in all six HOTLink counties (the data for the other four counties also having been obtained from the CBP Texas database).

d. Combine InterLink with Hill-McLennan data

A program (H-M_LMIS) was written to combine the data in LMIS2D88 and HILL_MCL, using the SICs in the former and producing the database SSC2D88. If the SIC in LMIS2D88 was found in HILL_MCL, the employment value in SSC2D88 was the sum of the values in the two files. If the LMIS2D88 SIC was <u>not</u> found in HILL_MCL, the InterLink alone was used. Then, each SIC in HILL_MCL was compared with all those in LMIS2D88; when none was found, a record was added to SSC2D88 for that SIC, with the employment value from HILL_MCL.

e. Modify SSC2D88

The SSC2D88 file produced in the preceding step had 75 2-digit SIC codes. The files with which it was to be combined to create SSC2D_HF (the ultimate 2-digit SIC database with both historical and forecast employment values) had but 70. It turned out that all 5 extra records in SSC2D88 had been added by the final step in H-M_LMIS; all were codes from HOTLink for which there were no InterLink data. Four of these had very small employment totals (320 for SIC 02, 212 for SIC 07, 32 for SIC 46, and 0 for SIC 66) and were deleted; one, SIC 89, was an old code (pre-1987 SIC system), which in the 1987 system was changed to 87. The employment in this code (946) was added to the SIC 87 total, and SIC 89 was deleted.

3. Development of 1990 historical data (SSC2D90)

a. Combine BLS 790 data for Dallas and Fort Worth MSAs

Separate files of annual averages for 1988-1990 for the two MSAs (DAL_ANN and FTW_ANN) were created from the raw BLS 790 data obtained on printouts from the Bureau of Labor Statistics. These files were combined (by a program called COMBINE), based on the SIC codes in FTW_ANN, which had a smaller set than DAL_ANN, to produce DALFTW90, with 66 records. Then all codes other than 2-digit were deleted from this file to create DFW_90B (54 records).

b. Create a 1990 template from InterLink LMIS data

The most recent historical data (1989) were extracted from SICTOT02 and aggregated to 2-digit SIC codes. The resulting file, LMIS2D89, was copied to a new file called LMIS2D90, which was used as a template for the 1990 BLS 790 data.

c. Create a new file for the BLS 790 data

The data from DFW_90B were copied into a new file, LMIS_BLS, created as a template from LMIS2D89. LMIS_BLS contained, for each of the 70 2-digit SIC codes in LMIS2D89, variables called ACT89 and Y89, as well as Y90. ACT89 came from LMIS2D89, while Y89 and Y90 came from DFW_90B. All 70 records had values of ACT89, while only 54 of those records had values of Y89. Where both variables had values, a third variable, RATIO, was created, defined as ACT89/Y89. For each SIC with a value of RATIO, the value shows the amount by which total employment in that category (ACT89) exceeds the wage-and-salary employment from the BLS 790 data (Y89).

d. Fill in the values in LMIS2D90 from LMIS_BLS

Area employment values for 1990 (EMPL90 in LMIS2D90) were equated to the Y90 value from LMIS_BLS, inflated by the value of RATIO for that SIC code, when the RATIO and Y90 values were available. For SIC codes for which there were no BLS 790 values in LMIS_BLS, the EMPL90 value was computed by inflating the ACT89 LMIS value by the ratio of the total BLS 1990 employment (1,847,000) to the total BLS 1989 employment (1,807,100). All this was done in a program called MKLMIS90.

e. Obtain Hill & McLennan data from HOTLINK

Since historical data for 1990 were not available from the CBP databases, estimates for Hill and McLennan counties had to be computed from the HOTLink regional totals. As shown by the percen-

tages given above, the two counties together accounted for 87% of the 1988 CBP total employment in the six HOTLink counties. This percentage was applied to the 1990 values in the HOTLINK database to obtain Hill-McLennan estimates, which were put in HILMCL90.

f. Combine InterLink region and HOTLink region data

With the 2-digit SIC employment estimates for the InterLink region in LMIS2D90 and the corresponding estimates for Hill and McLennan counties in HILMCL90, it was a simple matter to add the values by SIC code and put the results in the SSC 1990 historical database, SSC2D90.

4. Development of 1991-2000 forecast data (SIC2DFOR)

a. Produce forecasts of total employment for 1991-2000

o Choice of forecasting model

The initial forecasting approach was that used for the InterLink data in 1990: relate total employment in the region to total employment lagged one year, current GNP, current and lagged oil prices, and the current value of employment in an "export" industrial sector defined as electronics, instruments, and aircraft manufacturing. ARIMA modeling was used on the estimation residuals.

Forecasts of total employment are then based on forecasts of the exogenous variables: GNP (obtained from a commercial economic data service), oil price (same source), and "export" employment (straight-line projection from 1972-1990).

This model produced exponentially increasing forecasts, with a compound growth rate of 3.4%, resulting in a 50% overall increase in total employment over the 1991-2000 period.

Because this growth was seen as too large, given the realities of the local and national economies, an alternative model was also used. This model consisted simply of linear-trend extrapolation of the 1974-1990 values, and yielded an overall growth of 30% over the 10-year forecast horizon.

The results of both approaches were presented to the board of economists, who as noted earlier opted for the more conservative approach.

o Produce SSC-inflated forecasts

The forecasts obtained from the linear-trend model were for Dallas-Fort Worth area wage-and-salary employment only, since those were the data (BLS 790) that were extrapolated. These values had to be inflated, first, to provide estimates of total employment and, second, to cover the SSC geography (Hill and McLennan counties in addition to the InterLink area).

The inflation was done in two stages. First, an averaged factor of 1.0735 was used to inflate to total employment. This factor was based on the historical relation between the InterLink LMIS data and the BLS 790 data. Second, an averaged factor of 1.0343 was applied to the LMIS-inflated values to account for the addition of the two Waco-area counties. This value was based on the historical relation between Hill and McLennan employment, combined, and Dallas-Fort Worth employment, the former accounting for an average 3.43% of the latter.

b. Produce forecasts of 2-digit SIC %s

The approach to developing SIC-level forecasts was not to forecast each sector separately, but to develop projections over 1991-2000 of the percentage of total employment accounted for by each 2-digit SIC and applying those percentages to the total-employment forecasts.

Provisional forecasts of the %s for the 20 largest SICs were available from the 1991-1995 LMIS forecasts prepared in 1990. These were plotted with the historical values back to 1984 and presented to the board of economists for their evaluation. For each of the 20 SICs a consensus was reached as to how the SIC's share of total employment was expected to change over the 1991-2000 period, usually by specifying the 2000 value and assuming a straight-line trend from the 1990 value.

These forecasts were then adjusted, as necessary, by relating them to the %s based on the SSC 1990 data, not the LMIS 1990 forecasts. Then the %s for the remaining 50 2-digit SICs, which accounted for one-third of total employment in 1990, were determined by assuming that they would remain at their 1990 levels through 2000 and then adjusting them proportionally so that all 70 %s would sum to 100.

c. Compute forecasts for 2-digit SIC codes

Finally, the employment-level forecasts for the 70 2-digit SIC codes were computed by applying the adjusted %s to the SSC-inflated linear-trend total-employment forecasts for 1991-2000. The results were put in a database called SIC2DFOR.

5. Creation of combined history-forecast database

Finally, the 1988 historical data (SSC2D88), the 1990 historical data (SSC2D90), and the 1991-2000 forecast data (SIC2DFOR) were merged into a single database (SSC2D_HF). In the process, values for 1989 were computed as the average of the 1988 and 1990 values.

6. Creation of 3-digit SIC data

In order to provide data for the SSC LMIS at a level of detail consistent with that of the InterLink LMIS, Version 1.2, the 2-digit SIC employment totals had to be disaggregated to 3-digit SIC totals.

Three sources of information were considered to determine how the 2-digit SIC totals should be broken down to 3-digit categories:

- The Dallas and Fort Worth industry data in the Texas Employment Commission publication, Area Jobs 1995;
- The BLS 790 data, insofar as complete breakdowns were given;
- The previously developed LMIS data.

These sources were reviewed and compared to arrive at breakdowns for each of the 70 2-digit SIC codes in SSC2D_HF. Those breakdowns were then incorporated in two programs, SIC2D3DA and BRKDN_A, which created the database SSCHF3DA.

With the addition of SIC titles, this file became the version of SICTOT02 used in the SSC LMIS.

7. Creation of OES occupational employment totals

The SSC LMIS, to be consistent with the InterLink LMIS and to provide the appropriate types of information for the user, needed to have employment totals, historical and forecast, presented for OES (Occupational Employment Statistics) codes. Such totals are not observed directly, but are computed from 3-digit SIC totals through use of an industry-occupation transformation matrix. This matrix, embodied in a database (ICMAT02 in Version 1.2 of the InterLink LMIS), gives the percentage breakdown of each 3-digit SIC into OES codes, so it can be used to break the SIC totals down into OES-specific pieces which can in turn be added up to OES totals.

A different disaggregation of 2-digit SIC totals is needed to use the I/O matrix, since its 3-digit SIC codes do not completely match those of BLS 790 or Area Jobs breakdowns. (This matrix was provided in 1990 by the Texas State Occupational Information Coordinating Committee [SOICC].) Therefore, separate programs were created for this task (SIC2D3DB and BRKDN_B). Another program, MKOES_HF, was used to build up the OES totals, in the database SSCOESHF.

8. Production of county labor-demand files

a. 2-digit SIC codes

The totals in SSC2D_HF were disaggregated into county-specific files for the 18 counties in the SSC impact region. This was done using fractions developed by relating each county's total employment in the 1988 CBP data to the 18-county total. The largest, of course, were Dallas and Tarrant counties, with 59% and 24%, respectively, of the regional total. The next largest was Collin County, with 4.2% of the total.

b. 3-digit SIC and OES totals

Since the 2-digit SIC totals were so small for all but Dallas and Tarrant counties, 3-digit SIC and OES breakdowns were produced only for these two counties. These were constructed by the same procedure as described in Sections 6 and 7 immediately preceding.

Program-Completer Data

The labor-supply module in the SSC LMIS contains data on 1988-1989 completers of voc-ed programs in state-supported community colleges, junior colleges, TSTI campuses, and other post-secondary institutions in the State of Texas. The data were provided by the Texas Higher Education Coordinating Board in the form of two files, one giving data on 1,408 programs (reduced to 1,403 due to missing data) identified by CIP code and HECB institution (FICE) code, the other giving the institution code and name for 57 institutions. The data in the program file consist of institution code, CIP code, total program completers, and counts in various status categories from a follow-up survey.

These data were manipulated only to the extent of aggregation by CIP code over institutions for reporting. When displayed in the SSC LMIS by CIP code, they may be seen either in aggregated or disaggregated form. The data may also be displayed by CIP code within institution.

Appendix F

SSCL Direct Job Descriptions by OES Code

10000
MANAGERIAL AND ADMINISTRATIVE OCCUPATIONS:
Include in this division top and middle-level managers, administrators, and executives. Primary duties are policy making, planning, staffing, directing or controlling the activities of industrial, commercial, governmental or other establishments. .....Organization of this section - Occupations in this section are ordered functionally as follows: Staff and administrative managerial; Industry specific managerial; and a residual "All Other " category. Special instructions - Exclude first-line supervisors and managers with first-line duties. These workers, if professional, paraprofessional or technical, should be reported with the workers they supervise. All other supervisors and manager/supervisors should be reported in the separate categories provided in each division. Exclude owners and partners of unincorporated firms. Include only managers and administrators who are exempt from the minimum wage and overtime provision of the Fair Labor Standards Act.

13002
FINANCIAL MANAGERS;
Plan, organize, direct, control, or coordinate the financial activities of an organization. Include managers in banks or similar financial institutions who advise on credit and investment policy or negotiate general policy with financial or other institutions.

13005
PERSONNEL, TRAINING, AND LABOR MANAGERS:
Plan, organize, direct, control, or coordinate the personnel, training or labor relations activities of an organization. Work involves establishing employer-relations policies; directing the selection, training, and evaluation of employees; administering benefits, safety, and recreational programs; developing wage and salary schedules; coordinating bargaining activities; and advising on labor contract administration.

13008
PURCHASING MANAGERS:
Plan, organize, direct, control, or coordinate the activities of buyers, purchasing officers, and related workers involved in purchasing materials, products, or services. Include wholesale or retail trade merchandising managers.

13014
ADMINISTRATIVE SERVICES MANAGERS:
Plan, organize, direct, control, or coordinate the supportive services department of businesses, agencies, and organizations. Typical Administrative Service Managers are Property Managers and Contract Administrators. Managers who spend less than 80% of their time in administrative services should be classified in another appropriate managerial category. Exclude Procurement Managers.

13017
ENGINEERING, MATHEMATICAL, AND NATURAL SCIENCES MANAGERS:
Plan, organize, direct or coordinate activities in such fields as architecture, electronic data processing, engineering, life sciences, physical sciences, statistics and systems analysis. These persons spend the greatest portion of their time in managerial work for which a background consistent with that described for engineers, mathematicians or natural scientists is required.

15008
MEDICINE AND HEALTH SERVICES MANAGERS:
Plan, organize, direct, control, or coordinate medicine and health services in establishments, such as hospitals, clinics, or similar organizations.

19005
GENERAL MANAGERS AND TOP EXECUTIVES:
Include both top and mid-level managers whose duties and responsibilities are too diverse and general in nature to be departmental or subordinate executives.

19999
ALL OTHER MANAGERS AND ADMINISTRATORS:
Include all other workers in this category not classified separately.

20000
PROFESSIONAL, PARAPROFESSIONAL, AND TECHNICAL OCCUPATIONS:
Include in this division persons concerned with the theoretical or practical aspects of such fields as science, art, education, law and business relations where substantial post-secondary educational preparation, or equivalent on-the-job training or experience is required. Organization of this section - Occupations in this section are ordered functionally as follows: General management support; engineering and scientific; data processing and mathematical; social science, law and related; teaching and related; medicine and health; writing; art and related; and a residual "All Other" category. Special instructions - Quality Control Workers should be reported according to the nature of the quality control process (i.e. chemical, mechanical, biological). Thus, an Engineer engaged in quality control work of a chemical nature should be reported as a Chemical Engineer. First-line supervisors and managers with first-line duties should be reported along with the workers they supervise. Report Administrative Assistants in occupations according to the nature of work they provide (i.e. clerical supportive vs. management supportive).

21100
ACCOUNTANTS, AUDITORS, AND OTHER FINANCIAL SPECIALISTS:
Include persons engaged in planning and administering accounting services, advising on tax and accountancy problems, conducting audit, and planning and administering other financial activities, such as budget analysis, mortgage approval, credit and underwriting analysis, and foreign exchange trading.

21114
ACCOUNTANTS AND AUDITORS:
Examine, analyze, and interpret accounting records for the purpose of giving advise or preparing statements and installing or advising on systems of recording costs or other financial and budgetary data.

21117
BUDGET ANALYSTS:
Examine budget estimates for completeness, accuracy, and conformance with procedures and regulations. Examine requests for budget revisions, recommend approval or denial, and draft correspondence. Analyze monthly department budgeting and accounting reports for the purpose of maintaining expenditure controls. Provide technical assistance to officials in the preparation of budgets.

21300
BUYER (PURCHASING AGENTS AND BUYERS)

21308
PURCHASING AGENTS, EXCEPT WHOLESALE, RETAIL, AND FARM PRODUCTS:
Purchase raw or semi-finished materials for manufacturing or purchase machinery, equipment, tools, parts, supplies, or services necessary for the operation of an establishment. Include Contract Specialists, Field Contractors, Purchasers, Price Analysts, Tooling Coordinators, and Media Buyers.

21508
EMPLOYMENT INTERVIEWERS, PRIVATE OR PUBLIC EMPLOYMENT SERVICE:
Interview job applicants in employment offices and refer them to prospective employers for consideration. Record and evaluate various pertinent data. Search application files, notify selected applicants of job openings, and refer qualified applicants to prospective employers. Contact employers to verify referral results and record data.

21511
PERSONNEL, TRAINING, AND LABOR RELATIONS SPECIALISTS:
Conduct programs of recruitment, selection, placement, training, promotion, welfare, safety, compensation, or separation of employees. May specialize in specific areas such as labor-management relations, counseling, job

analysis, position classification, training, or compensation. Exclude occupations in personnel research and in the administration of testing and counseling programs for which a background in psychology is required. Also exclude Employment Interviewers, Private or Public Employment Service.

21902
COST ESTIMATORS:
Prepare cost estimates for manufacturing of products, construction projects, or services to aid management in bidding on or determining price of products or services. May specialize according to particular service performed or product produced.

21999
ALL OTHER MANAGEMENT SUPPORT WORKERS:
Include all other workers in this category not classified separately.

22100
ENGINEERS:
Include persons engaged in the practical application of physical laws and principles of engineering for the development and utilization of machines, materials, instruments, processes, and services. Include Engineers in research, development, production, technical services, and other positions which require knowledge normally obtained through completion of a 4-year engineering college program. Exclude persons trained in engineering but currently working in positions not requiring engineering training.

22121
CIVIL ENGINEERS, INCLUDING TRAFFIC:
Perform a variety of engineering work in planning, designing, and overseeing construction and maintenance of structures and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, water and sewage systems, and waste disposal units. Include Traffic Engineers who specialize in studying vehicular and pedestrian traffic conditions.

22135
MECHANICAL ENGINEERS:
Perform a variety of engineering work in the planning and designing of tools, engines, machines, and other mechanically functioning equipment; and oversee installation, operation, maintenance, and repair of such equipment, including centralized heat, gas, water, and steam systems. Exclude Sales Engineers and report them with the Sales Workers.

22199
ALL OTHER ENGINEERS:
Include all other workers in this category not classified separately.

22500
ENGINEERING AND RELATED TECHNICIANS AND TECHNOLOGISTS:
Include persons who assist Engineers, Architects, or Surveyors and Mapping Scientists in laboratory or production activities, such as research, development, data collection, equipment or machine design, testing, quality control, and efficiency studies. Normally these technicians work under the general supervision of Engineers, Architects, or Surveyors and Mapping Scientists, utilizing basic knowledge of principles and techniques in specific areas of engineering, science, mathematics, drafting, and surveying and mapping. Repair Technicians whose work is primarily maintenance and not developmental are excluded and should be reported with Mechanics and Repairers.

22502
CIVIL ENGINEERING TECHNICIANS AND TECHNOLOGISTS:
Apply theory and principles of civil engineering in planning, designing, and overseeing construction and maintenance of structures and facilities under the direction of engineering staff and physical scientists.

22514
DRAFTERS:
Prepare clear, complete, and accurate working plans and detail drawings from rough or detailed sketches or notes for engineering or manufacturing purposes according to specified dimensions. Utilize knowledge of various machines, engineering practices, mathematics, building materials, and other physical sciences to complete drawings. May use computer-assisted drafting (CAD) equipment and software and be designated CAD drafter.

24000
**********COLLABORATOR, SCIENTISTS

24100
PHYSICAL SCIENTISTS:
Include persons engaged in research, development, production, or providing technical services pertaining to the physical universe (i.e. Geologists, Chemists, Physicists, etc.). Work may focus on increasing the basic knowledge of the physical universe or the application of these scientific principles and theories to specific problems and situations. Physical Scientists are engaged in scientific work which requires knowledge normally obtained by completion of a 4-year physical science college program. Exclude Biophysicists and Biochemists and report them with Life Scientists.

24102
PHYSICISTS AND ASTRONOMERS:
Physicists: Conduct research into the phases of physical phenomena; develope theories and laws on the basis of observation and experiments; and devise methods to apply laws and theories to industry and other fields. Astronomers: Observe, interpret, and research celestial and astronomical phenomena to increase basic knowledge and apply such information to practical problems. Exclude Biophysicists.

24111
GEOLOGISTS, GEOPHYSICISTS, AND OCEANOGRAPHERS:
Geologists: Study composition, structure, and history of the earth's crust; examine rocks, minerals, and fossil remains to identify and determine the sequence of processes affecting the development of the earth; apply knowledge of chemistry, physics, biology, and mathematics to explain these phenomena and to help locate mineral and petroleum deposits and underground water resources; prepare geologic reports and maps, interpret research data, and recommend further study or action. Geophysicists: Study physical aspects of the earth, including the atmosphere and hydrosphere; investigate and measure seismic, gravitational, electrical, thermal, and magnetic forces affecting the earth utilizing principles of physics, mathematics, and chemistry. Oceanographer: Study topographical features and rock and sediment of the ocean bottom in addition to the physical aspects of oceans, such as density, temperature, and sound. Exclude Geodesists and report them under Surveying and Mapping Scientists.

24199
ALL OTHER PHYSICAL SCIENTISTS:
Include all other workers in this category not classified separately.

24308
BIOLOGICAL SCIENTISTS:
Include scientists concerned with research into problems dealing with life processes. Include Biologists, Biochemists, Biophysicists, Pathologists, Bacteriologists, Toxicologists, and Zoologists. Exclude Medical and Agricultural Scientists.

25102
SYSTEMS ANALYSTS, ELECTRONIC DATA PROCESSING:
Analyze business, scientific, and technical problems for application to electronic data processing systems. Exclude persons working primarily as Engineers, Mathematicians, or Scientists.

25105
COMPUTER PROGRAMMERS:
Convert symbolic statements of administrative data, business, scientific, engineering, and other technical problem formulations to detailed logical flow chart for coding into computer language; develop and write computer programs to store, locate, and retrieve specific documents, data, and information.

25108
COMPUTER PROGRAMMER AIDES:
Assist Computer Programmers or System Analysts by performing computer related tasks, such as entering completed programs for conversion to machine instruction, writing simple programs to retrieve data, and other duties to assist in the processing of data or to control industrial processes.

25199
ALL OTHER COMPUTER SCIENTISTS:
Include all other workers in this category not classified separately.

25302
OPERATIONS AND SYSTEMS RESEARCHERS AND ANALYSTS, EXCEPT COMPUTER:
Conduct analyses of management and operational problems in terms of management information and concepts. Formulate mathematical or simulation models of the problem for solution by computers or other methods. May develop and supply time and cost networks, such as Program Evaluation and Review Techniques.

25999
*****ILLUSTRATOR (COMPUTER GRAPHICS)*****

28000
LAW AND RELATED OCCUPATIONS:
Include persons concerned with the application of principles related to statute law and its administration. Work includes presiding over judicial proceedings, conducting litigation, drawing up legal documents, giving legal advice and performing other legal functions. Include Administrative Hearing Examiners and Arbitrators whose decisions have standing in courts of law. Include workers who provide technical legal assistance to lawyers or judges. These workers often have substantial knowledge in a specialized aspect of law, such as patents, contracts, or title search.

31502
LIBRARIANS, PROFESSIONAL:
Include persons concerned with administering libraries and performing related library services including selecting, acquiring, cataloging, classifying, circulating, and maintaining library materials or furnishing references, bibliographies, and reader's advisory services. May select music, films, or other audio-visual material for subject matter of program.

31511
CURATORS, ARCHIVISTS, MUSEUM TECHNICIANS, AND RESTORERS:
Curators: Administer affairs of museum and conduct scientific research programs. Direct activities concerned with instructional, research, and public service objectives of institutions. Archivists: Appraise, edit, and direct safekeeping of permanent records and historically valuable documents, and participate in research activities based on archival materials. Museum Technicians and Restorers: Prepare specimens for museum collection and exhibits, such as fossils, skeletal parts, lace, and textiles. May restore documents or install, arrange, and exhibit materials.

32502
REGISTERED NURSES:
Administer nursing care to ill or injured persons. Include administrative, public health, industrial, private duty, and surgical nurses. Licensing or registration required. Report Directors of Nursing under Medicine and Health Service Managers and report Nursing Instructors and Teachers under Teachers, Educators, Librarians and Related Workers.

34002
WRITERS AND EDITORS:
Originate and prepare written material such as scripts, stories, news items, advertisements, and other material. Coordinate, edit, and analyze prepared written material. Include Managing Editors. Exclude Publicity Writers, Public Relations Specialists, and Technical Writers.

34008
PUBLIC RELATIONS SPECIALISTS AND PUBLICITY WRITERS:
Include workers concerned with promoting or creating goodwill for individuals, groups, or organizations by writing or selecting favorable publicity material and releasing it through various communications media, preparing and arranging displays, making speeches, and performing related publicity efforts.

55100
SECRETARIES:
Relieve officials of clerical work and minor administrative and business detail by scheduling appointments, giving information to callers, taking dictation, composing and typing routine correspondence (using typewriter or word processor), reading and routing incoming mail, and filing correspondence and other records. May perform various other assigned clerical duties.

55199
ALL OTHER SECRETARIES:
Include all other workers in this category not classified separately.

55300
*****CLERK*** (OTHER SECRETARIAL RELATED AND GENERAL OFFICE WORKERS)**

55305
RECEPTIONISTS AND INFORMATION CLERKS:
Answer inquiries and obtain information for general public (customers, visitors, and other interested parties) concerning activities conducted at an establishment, location of offices or persons within firm, departments within store, or services within hotel. May perform variety of other clerical duties. Exclude Receptionists who operate switchboards.

55311
TYPISTS, WORD PROCESSING EQUIPMENT:
Use word processing equipment to type letters, forms, or other straight copy material from rough draft, corrected copy, or voice recording. May perform other clerical duties as assigned. Keypunchers are classified as Data Entry Keyers. Secretaries and Stenographers may also use word processing equipment but are excluded from this category.

55347
GENERAL OFFICE CLERKS:
Workers should be classified as General Clerks only if their duties are too varied and diverse to be classified in any specific office clerical occupation. Clerical duties may be assigned in accordance with the office procedures of individual establishments and may include a combination of bookkeeping, typing, stenography, office machine operation, and filling.

56000

ELECTRONIC DATA PROCESSING AND OTHER OFFICE MACHINE OCCUPATIONS:

Include workers who specialize in the operation of office machines, such as computers, billing machines, copiers, addressing and mailing machines, collators, data key-entry machines, etc. NOTE: Although most office workers operate "office machines" as part of their work, the workers in this category spend the majority of their time in machine operation. Typists are excluded from this category.

58000

MATERIAL RECORDING, SCHEDULING, DISPATCHING, AND DISTRIBUTING OCCUPATIONS:

Include persons concerned with dispatching equipment, materials and workers, examining orders for goods and services; receiving, storing, scheduling, issuing, shipping, requisitioning, and accounting for material in store, in use, or in production. Include occupations such as Dispatchers, Production and Planning Clerks, Expediters, Shipping Clerks, Stock Clerks, Meter Readers, Weighers, Checkers, and Samplers. In manufacturing, these workers are often closely related to clerical functions involved with the production process.

87000

CONSTRUCTION TRADES AND EXTRACTIVE OCCUPATIONS, EXCEPT MATERIAL MOVING:

Include in this group workers constructing, altering, and maintaining buildings, other structures, bridges, pipelines, and similar projects. The construction/maintenance work performed by these workers is found in many establishments, although the majority of these workers work for construction firms. Also include extractive workers, such as Blasters, Oil Well Drillers, and Mining Operatives. Exclude helpers and laborers.

97000

TRANSPORTATION AND MATERIAL MOVING MACHINE AND VEHICLE OPERATORS:

Include in this group workers who operate or control vehicles used to transport people or materials. Also included are transportation related workers such as Bridge Tenders, Service Station Attendants, and Parking Lot Attendants. Material moving also includes operation of equipment such as conveyors, pumps, cranes, and hoists.

Appendix G

SSCL Indirect Job Descriptions by OES Code

10000
MANAGERIAL AND ADMINISTRATIVE OCCUPATIONS:
Include in this division top and middle-level managers, administrators, and executives. Primary duties are policy making, planning, staffing, directing or controlling the activities of industrial, commercial, governmental or other establishments. Organization of this section - Occupations in this section are ordered functionally as follows: Staff and administrative managerial, industry specific managerial; and a residual "All Other" category .....Special instructions - Exclude first-line supervisors and managers with first-line duties. These workers, if professional, paraprofessional or technical, should be reported with the workers they supervise. All other supervisors and manager/supervisors should be reported in the separate categories provided in each division. Exclude owners and partners of unincorporated firms. Include only managers and administrators who are exempt from the minimum wage and overtime provision of the Fair Labor Standards Act.

13002
FINANCIAL MANAGERS:
Plan, organize, direct, control, or coordinate the financial activities of an organization. Include managers in banks or similar financial institutions who advise on credit and investment policy or negotiate general policy with financial or other institutions.

15017
CONSTRUCTION MANAGERS:
Plan, organize, direct, control, or coordinate, usually through subordinate supervisory personnel, activities concerned with the construction and maintenance of structures, facilities, and systems, including specialized construction fields, such as carpentry or plumbing. General Managers of large construction contracting firms should be reported under General Managers and Top Executives.

15026
FOOD SERVICE AND LODGING MANAGERS:
Plan, organize, direct, control, or coordinate management activities of an organization or department that serves food and beverages and/or provides lodging and other accommodations. Include Food and Beverage Directors.

19005
GENERAL MANAGERS AND TOP EXECUTIVES:
Include both top and mid-level managers whose duties and responsibilities are too diverse and general in nature to be classified in any functional or line area of management and administration. These managers generally work through departmental or subordinate executives.

19999
ALL OTHER MANAGERS AND ADMINISTRATORS:
Include all other workers in this category not classified separately.

20000
PROFESSIONAL, PARAPROFESSIONAL, AND TECHNICAL OCCUPATIONS:
Include in this division persons concerned with the theoretical or practical aspects of such fields as science, art, education, law and business relations where substantial post-secondary educational preparation, or equivalent on-the-job training or experience is required. Organization of this section - Occupations in this section are ordered functionally as follows: General management support; engineering and scientific; data processing and mathematical; social science, law and related; teaching and related; medicine and health; writing, art and related; and a residual "All Other" category. Special instructions - Quality Control Workers should be reported according to the nature of the quality control process (i.e. chemical, mechanical, biological). Thus, an Engineer engaged in quality control work of a chemical nature should be reported as a Chemical Engineer. Unlike the other divisions of this form, first-line supervisors and managers with first-line duties should be reported along with the workers they supervise. Report Administrative Assistants in occupations according to the nature of work they provide (i.e. clerical supportive vs. management supportive).

22126
ELECTRICAL AND ELECTRONIC ENGINEERS:
Design, develop, test and supervise the manufacture and installation of electrical and electronic equipment, components or systems for commercial, industrial, military or scientific use. Exclude Sales Engineers and report under Sales Workers and exclude Computer Engineers.

22505
ELECTRICAL AND ELECTRONIC ENGINEERING TECHNICIANS AND TECHNOLOGISTS:
Apply electrical and electronic theory and related knowledge to design, build, test, repair, and modify developmental, experimental, or production electrical equipment in industrial or commercial plants and for subsequent use by engineering personnel in making engineering design and evaluation decisions.

25102
SYSTEMS ANALYSTS, ELECTRONIC DATA PROCESSING:
Analyze business, scientific, and technical problems for application to electronic data processing systems. Exclude persons working primarily as Engineers, Mathematicians, or Scientists.

25104 (25108)
COMPUTER PROGRAMMER AIDES:
Assist Computer Programmers or Systems Analysts by performing computer related tasks such as entering completed programs for conversion to machine instruction, writing simple programs to retrieve data, and other duties to assist in the processing of data or to control industrial processes.

27311
RECREATION WORKERS:
Conduct recreation activities with groups in public, private, or volunteer agencies or recreation facilities. Consider needs and interests of individual members and organize and promote activities, such as arts and crafts, sports, games, music, dramatics, social recreation, camping, and hobbies.

28108
LAWYERS:
Conduct criminal and civil lawsuits, draw up legal documents, advise clients as to legal rights, and practice other phases of law. May represent client in court, or before quasi-judicial or administrative agencies of government. May specialize in a single area of law such as patent law, corporate law, or criminal law.

28305
PARALEGAL PERSONNEL:
Assist lawyers by doing research in the preparation of lawsuits and/or legal documents as a career professional, usually having either a four-year college degree or a degree from an institution specializing in the paralegal profession. May gather research data for use as evidence to formulate defense or to initiate legal action.

28308
TITLE SEARCHERS:
Compile list of mortgages, deeds, contracts, judgments, and other instruments (chain) pertaining to title by searching public and private records for real estate or title insurance company.

28311
TITLE EXAMINERS AND ABSTRACTORS:
Title Examiners: Search public records and examine titles to determine legal condition of property title. Copy or summarize (abstracts) recorded documents, such as mortgages, trust deeds, and contracts, affecting condition of title to property. May prepare and issue policy that guarantees legality of title. Abstractors: Summarize pertinent legal or insurance details or sections of statutes or case law from reference books for purpose of examination, proof, or ready reference. Search out titles to determine if title deed is correct.

31317
INSTRUCTORS, NONVOCATIONAL EDUCATION:
Teach or instruct out-of-school youths and adults in courses other than those that normally lead to an occupational objective and are less than the baccalaureate level. Subjects may include self-improvement or non-vocational courses, such an Americanization, basic education, art, drama, music, bridge, homemaking, stock market analysis, languages, modeling, flying, dancing, and automobile driving. Teach in public or private schools or in an organization whose primary business is other than education.

32102
PHYSICIANS AND SURGEONS:
Include doctors of medicine who diagnose and treat mental or physical disorders. May specialize in one field such as surgery, obstetrics, or psychiatry.

32502
REGISTERED NURSES:
Administer nursing care to ill or injured persons. Include administrative, public health, industrial, private duty, and surgical nurses. Licensing or registration required. Report Directors of Nursing under Medicine and Health Service Managers and report Nursing Instructors and Teachers under Teachers, Educators, Librarians and Related Workers.

32505
LICENSED PRACTICAL NURSES:
Care of ill, injured, convalescent, and handicapped persons in hospitals, clinics, private homes, sanitariums, and similar institutions.

32517
PHARMACISTS:
Compound and dispense medications following prescriptions issued by physicians, dentists or other authorized medical practitioners.

32916 (32917,32921)
RADIOLOGIC TECHNICIANS/TECHNOLOGISTS:
RADIOLOGIC TECHNOLOGISTS: Take X-rays, Catscans, or administer nonradioactive materials into patient's blood stream for therapeutic purposes. Report workers whose primary duties are to demonstrate portions of the human body on X-ray film or fluoroscopic screen as Radiologic Technicians. Include technologists who specialize in other modalities such as computed tomography, ultrasound, and magnetic resonance. Report Echocardiographers as Cardiology Technologists.
RADIOLOGIC TECHNICIANS: Maintain and safely use equipment and supplies necessary to demonstrate portions of the human body on X-ray film or fluoroscopic screen for diagnostic purposes.

34023
PHOTOGRAPHERS:
Photograph persons, subjects, merchandise or other commercial products. Include Scientific Photographers, Aerial Photographers, and Photojournalists. May develop negatives and produce finished prints.

34056
PRODUCERS, DIRECTORS, ACTORS, AND OTHER ENTERTAINERS:
Include persons who produce, direct, or are involved in playing parts in stage, television, radio, or motion picture productions for entertainment, information, or instruction.

39999
ALL OTHER PROFESSIONAL, PARAPROFESSIONAL, AND TECHNICAL WORKERS:
Include all other workers in this category not classified separately.

40000
SALES AND RELATED OCCUPATIONS:
Include in this division persons selling goods or services and others directly related to sales. Organization of this section - Occupations in this section are ordered functionally as follows: Supervising; sales of services; commodity sales; and a residual "All Other" category. Special instructions - Managers of smaller establishments who typically have first-line supervisory duties and engage in the same activities as the workers they supervise should be reported in the First Line Supervisors and Manager/Supervisors occupation.

41002
FIRST LINE SUPERVISORS AND MANAGER/SUPERVISORS - SALES AND RELATED OCCUPATIONS:
Directly supervise and coordinate activities of marketing sales, and related workers. In addition to their supervisory duties, may perform management functions such as budgeting, accounting, marketing, and personnel work.

43002
SALES AGENTS AND PLACERS, INSURANCE:
Sell or advise clients on life, endowments, fire, accident, and other types of insurance. May refer clients to independent brokers. May work as independent broker or be employed by an insurance company.

43008
SALES, AGENTS, REAL ESTATE:
Rent, buy, and sell property to clients on commission basis. Perform duties such as studying property listings, interviewing prospective clients, accompanying clients to property site, discussing conditions of sale, and drawing up real estate contracts.

49008
SALES REPRESENTATIVES, EXCEPT SCIENTIFIC AND RELATED PRODUCTS OR SERVICES AND RETAIL:
Sell goods and services for wholesalers or manufacturers to businesses or groups of individuals. Work requires a substantial knowledge of the items sold. Solicit orders from established clients or secure new customers.

49011
SALESPERSONS, RETAIL:
Sell any of a wide variety of merchandise to the public, such as furniture, motor vehicles, appliances, or apparel. Include also workers who sell less expensive merchandise (to the public) where a knowledge of the item sold is not a primary requirement. Exclude Cashiers.

49014
SALESPERSONS, PARTS:
Sell spare and replaceable parts and equipment from behind counter in agency, repair shop, or parts store. Determine make, year, and type of part needed by observing damaged part or listening to a description of malfunction. Read catalogue to find stock number, price, etc., and fill customer's order from stock. Exclude workers whose primary responsibilities are to receive, store, and issue materials, equipment, and other items from stockrooms and report them with Stock Clerks - Stockroom, Warehouse, or Storage Yard.

49017
COUNTER AND RENTAL CLERKS:
Receive articles and/or orders for services, such as rentals, repairs, dry cleaning, and storage. May compute cost and accept payment.

49021
STOCK CLERKS, SALES FLOOR:
Receive, store, and issue merchandise on sales floor. Stock shelves, racks, cases, bins, and tables with merchandise and arrange display of items to attract customers. May periodically take physical count of stock or check and mark merchandise.

49023
CASHIERS:
Receive and disburse money in establishments other than financial institutions. Usually involves use of adding machines, cash registers, and change makers. May also include processing credit card transactions.

49999
ALL OTHER SALES AND RELATED WORKERS:
Include all other workers in this category not classified separately.

50000
CLERICAL AND ADMINISTRATIVE SUPPORT OCCUPATIONS:
Include in this division persons performing office and plant clerical tasks, such as typing, filing, computer operating, records keeping (personnel, stock, production, billing, etc.), and mail preparation and distributing. Organization of this section - Occupations in this section are ordered functionally as follows: Supervising; unique and industry specific (occupations); secretarial and general office; office machine operating; communications and mail distributing; material recording and other production related; and a residual "All Other" category. Report Administrative Assistants in occupations according to the nature of work they provide (i.e. clerical supportive vs. management supportive).

51002
FIRST LINE SUPERVISORS AND MANAGER/SUPERVISORS - CLERICAL AND ADMINISTRATIVE SUPPORT OCCUPATIONS:
Directly supervise and coordinate activities of clerical and administrative support workers. Manager/Supervisors are generally found in smaller establishments where they perform both supervisory ad management functions, such as accounting, marketing, and personnel work. In addition, Manager/Supervisors may also engage, in part, in the same clerical work as the workers they supervise.

53102
TELLERS:
Receive and pay out money, and keep records of money and negotiable instruments involved in various financial institutions' transactions.

53121
LOAN AND CREDIT CLERKS:
Assemble documents, prepare papers, process applications, and complete transactions of individuals applying for loans and credit. Loan Clerks: review loan papers to insure completeness; operate typewriters to prepare correspondence, reports, and loan documents from draft; and complete transactions between loan establishment, borrowers, and sellers upon approval of loan. Credit Clerks: interview applicants to obtain personal and financial data, determine credit worthiness, process applications, and notify customer of acceptance or rejection of credit. Exclude Loan Interviewers.

53123
ADJUSTMENT CLERK:
Investigate and resolve customers' complaints concerning merchandise, service, billing, or credit rating. Examine pertinent information to determine accuracy of customers' complaints and responsibility for errors. Notify customers and appropriate personnel of findings, adjustments, and recommendations, such as exchange of merchandise, refund of money, credit to customers' accounts, or adjustment of customers' bills.

53508
BILL AND ACCOUNT COLLECTORS:
Locate and notify customers of delinquent accounts by mail, telephone, or personal visit to solicit payment. Duties include receiving payment and posting amount to customer's account; preparing statements to credit department if customer fails to respond; initiating repossession proceedings or service disconnection; keeping records of collection and status of accounts. Exclude collectors of money from coin boxes.

53805
RESERVATION AND TRANSPORTATION TICKET AGENTS:
Make and confirm reservations for passengers and sell tickets for transportation agencies such as airlines, bus companies, railroads, and steamship lines. May check baggage and direct passengers to designated concourse pier, or track. Workers selling tickets for subways, city buses, ferryboats, and street railways should be classified as Cashiers.

55102
LEGAL SECRETARIES:
Prepare legal papers and correspondence of a legal nature, such as summonses, complaints, motions, and subpoenas. Must be familiar with legal terminology, procedures and documents, as well as legal research. May review law journals and other legal publications to identify court decisions pertinent to pending cases and submit articles to company officials.

55199
ALL OTHER SECRETARIES:
Include all other workers in this category not classified separately.

55305
RECEPTIONISTS AND INFORMATION CLERKS:
Answer inquiries and obtain information for general public (customers, visitors, and other interested parties) concerning activities conducted at an establishment, location of offices or persons within firm, departments within store, or services within hotel. May perform variety of other clerical duties. Exclude Receptionists who operate switchboards.

55307
TYPISTS, INCLUDING WORD PROCESSING:
Use typewriters or word processing equipment to type letters, reports, stencils, forms, addresses, or other straight copy material from rough draft, corrected copy, or voice recording. May perform other clerical duties as assigned. Keypunchers are classified as Data Entry Keyers. Secretaries and Stenographers may also use word processing equipment but are excluded from this category.

55311
TYPISTS, WORD PROCESSING EQUIPMENT:
SEE 55307

55323
ORDER CLERKS - MATERIALS, MERCHANDISE, AND SERVICE:
Receive and process incoming orders for materials, merchandise, or services such as repairs, installations, or rental of facilities. Additional duties include informing customers of receipt of order, prices, shipping dates, and delays; preparing contracts; and handling complaints. Workers who dispatch as well as take orders for services should be reported ad Dispatchers.

55335
CUSTOMER SERVICE REPRESENTATIVES, UTILITIES:
Interview applicants for water, gas, electric, or telephone service. Talk with customer by phone or in person and receive orders for installation, turn-on, discontinuance, or change in services.

55338
BOOKKEEPING, ACCOUNTING, AND AUDITING CLERKS:
Compute, classify, and record numerical data to keep sets of financial records complete. Perform any combination of routine calculating, posting, and verifying duties to obtain primary financial data for use in maintaining accounting records. May also check the accuracy of figures, calculations, and postings pertaining to business transactions recorded by other workers. Workers whose primary duty is operation of special office machines are classified as Billing, Posting, and Calculating Machine Operators.

55347
GENERAL OFFICE CLERKS:
Workers should be classified as General Clerks only if their duties are too varied and diverse to be classified in any specific office clerical occupation. Clerical duties may be assigned in accordance with the office procedures of individual establishments and may include a combination of bookkeeping, typing, stenography, office machine operation, and filing.

56017
DATA ENTRY KEYERS, EXCEPT COMPOSING:
Operate keypunch or key entry devices to prepare data processing input materials on cards, disk or tape. Duties include machine entry recording, coding, or verifying alphabetic or numeric data.

57108
CENTRAL OFFICE OPERATORS:
Operate telephone switchboard to establish or assist customers in establishing local or long-distance telephone connections.

58023
STOCK CLERKS - STOCKROOM, WAREHOUSE OR STORAGE YARD:
Receive, store, and issue materials, equipment, and other items from stockroom, warehouse, or storage yard. Keep records and compile stock reports. Exclude Stockroom Laborers and workers whose primary duties involve shipping, weighing, and checking.

58028
SHIPPING, RECEIVING, AND TRAFFIC CLERKS:
Verify and keep records on incoming and outgoing shipments and prepare items for shipment. Duties include assembling, addressing, stamping, and shipping merchandise or material; receiving, unpacking, verifying, and recording incoming merchandise or material; and arranging for the transportation of products. Exclude Laborers, Stock Clerks, and workers whose primary duties involve weighing and checking.

59999
ALL OTHER CLERICAL AND ADMINISTRATIVE SUPPORT WORKERS:
Include all other workers in this category not classified separately.

60000
SERVICE OCCUPATIONS:
Include in this division workers in occupations relating to protective service, food service, health assisting service, cleaning and building service, and personal service. Organization of this section - Occupations in this section are ordered functionally as follows: Supervising; protective services; food services; health; cleaning; personal services; and a residual "All Other" category.

61000
FIRST LINE SUPERVISORS AND MANAGER/SUPERVISORS - SERVICE:
Include persons who directly supervise and coordinate activities of workers who provide protective services, food services, health assisting services, cleaning and building services, personal services, and other services. Manager/Supervisors are generally found in smaller establishments where they perform both supervisory and management functions, such as accounting, marketing, and personnel work. In addition, Manager/Supervisors may also engage, in part, in the same work as the workers they supervise. Exclude work leaders who spend 20% or more of their time at tasks similar to those of employees under their supervision and report them in the occupations which are more closely related to their specific work duties.

61099
ALL OTHER SERVICE SUPERVISORS AND MANAGER/SUPERVISORS:
Include all other workers in the category not classified separately.

62031 (61008)
BUTLERS/HOUSEKEEPERS:
Supervise work activities of cleaning personnel to insure clean, orderly and attractive rooms in hotels, hospitals, educational institutions, and similar establishments. Assign duties, inspect work, investigate complaints regarding housekeeping service and equipment and take corrective action. May purchase housekeeping supplies and equipment, and take periodic inventories. May screen applicants, train new employees and recommend dismissals.

62041
CHILD CARE WORKERS, PRIVATE:
Perform any combination of duties to attend children in a private home: Observes and monitors play activities or amuses children by reading to or playing games with them. Prepares and serves meals or formulas. May sterilize bottles and other equipment for care of infants. Dresses or assists children to dress and bathe. When employed on an hourly basis, may be called a Babysitter.

62061
SERVANTS/CLEANERS, PRIVATE:
This group includes occupations involved in performing a variety of domestic tasks in keeping private homes clean and orderly, in cooking and serving meals, and in giving personal services to family members. Includes cleaning, dusting, making beds, caring for children, washing, ironing, and cooking. May include more laborious tasks such as washing walls and windows, and shifting furniture. Includes Chambermaid, Caretaker, Houseworker-general.

63047
GUARDS AND WATCH GUARDS:
Stand guard at entrance gate or walk about premises of business or industrial establishment to prevent theft, violence, or infractions of rules; guard property against fire, theft, vandalism, and illegal entry; direct patrons or employees and answer questions relative to services of establishment; control traffic to and from buildings and grounds. Include workers who perform these functions using a car patrol.

65002
HOSTS AND HOSTESSES - RESTAURANT, LOUNGE OR COFFEE SHOP:
Welcome patrons, seat them at tables or in lounge, and insure quality of facilities and service.

65005
BARTENDERS:
Mix and serve alcoholic and non alcoholic drinks to patrons of bar following standard recipes.

65008
WAITERS AND WAITRESSES:
Serve food and/or beverages to patrons at tables. Usually take order from patron and make out check. May set table with linen and silverware and take payment from patron. May serve customers at counter as well as table. Exclude workers who only work at counters.

65014
DINING ROOM AND CAFETERIA ATTENDANTS, AND BARTENDER HELPERS:
Perform any combination of the following duties to facilitate food service: Carry dirty dishes from dining room to kitchen. Replace soiled table linens and set tables with silverware and glassware. Replenish supply of clean linens, silverware, glassware, and dishes. Supply services bar with food, such as soups, salads, and desserts. Serve ice water and butter to patrons. May also serve coffee to patrons. May wash tables.

65017
COUNTER ATTENDANTS - LUNCHROOM, COFFEE SHOP, OR CAFETERIA:
Serve food to diners at counter or from a steam table. Counter Attendants who also wait tables should be reported under Waiters and Waitresses.

65021
BAKERS, BREAD AND PASTRY:
Mix and bake ingredients according to recipes to produce breads, pastries, and other baked goods. Goods are produced in smaller quantities for consumption on premises or for sale as specialty baked goods.

65026
COOKS, RESTAURANT:
Prepare, season, and cook soups, meats, vegetables, desserts, and other foodstuffs in restaurants. May order supplies, keep records and accounts, price items on menu, or plan menu.

65030 (65032)
COOKS, FAST-FOOD/SHORT-ORDER:
Prepare and cook food in a fast food restaurant with a limited menu. The menu and duties of the cooks are limited to one or two basic items, such as hamburgers, chicken, pizza, tacos, or fish and chips. The duties of the cook normally involve operating large volume single purpose cooking equipment. Typically, these cooks work in national or regional fast food chain restaurants.

65038
FOOD PREPARATION WORKERS:
Perform a variety of food preparation duties, such as preparing cold foods and maintaining and cleaning kitchen work areas, equipment, and utensils. Perform simple tasks such as preparing shellfish or slicing meat. May brew coffee, tea, or chocolate or prepare sandwiches. Work in such places as a restaurant kitchen or delicatessen.

65041
COMBINED FOOD PREPARATION AND SERVICE WORKERS:
Workers should be classified as Combined Food Preparation and Service Workers only if their duties combine both food preparation and food service. Workers who spend more than 80 percent of their time in one job should be classified as working in that job and reported in the appropriate category or in the category All Other Food Service Workers.

65099
ALL OTHER FOOD SERVICE WORKERS:
Include all other workers in the category not classified separately.

66002
DENTAL ASSISTANTS:
Assist Dentist at chair, set up patient and equipment, keep records, and perform related duties as required.

66008
NURSING AIDES, ORDERLIES, AND ATTENDANTS:
Work under the direction of nursing or medical staff to provide auxiliary services in care of patients. Perform duties such as answering patient's call bell, serving and collecting food trays, and feeding patients. Orderlies are primarily concerned with setting up equipment and relieving nurses of heavier work. Exclude Psychiatric Aides and Home Health Aides.

67001 (67002,67005)
JANITORS, CLEANERS, MAIDS:
MAIDS AND HOUSEKEEPING CLEANERS: Perform any combination of tasks to maintain private households or commercial establishments, such as hotels, restaurants and hospitals, in a clean and orderly manner. Duties include making beds, replenishing linens, cleaning rooms and halls, and arranging furniture.
JANITORS AND CLEANERS, EXCEPT MAIDS AND HOUSEKEEPING CLEANERS: Keep building in clean and orderly condition. Perform heavy cleaning duties, such as operating motor-driven cleaning equipment, mopping floors, washing walls and glass, and removing rubbish. May have additional duties and responsibilities, such as tending furnace and boiler, performing routine maintenance activities, notifying management of need for repairs and additions, and cleaning snow or debris from sidewalk.

67002
MAIDS AND HOUSEKEEPING CLEANERS:
Perform any combination of tasks to maintain private households or commercial establishments, such as hotels, restaurants and hospitals, in a clean and orderly manner. Duties include making beds, replenishing linens, cleaning rooms and halls, and arranging furniture.

67005
JANITORS AND CLEANERS, EXCEPT MAIDS AND HOUSEKEEPING CLEANERS:
Keep building in clean and orderly condition. Perform heavy cleaning duties, such as operating motor-driven cleaning equipment, mopping floors, washing walls and glass, and removing rubbish. May have additional duties and responsibilities, such as tending furnace and boiler, performing routine maintenance activities, notifying management of need for repairs and additions, and cleaning snow or debris from sidewalk.

68014
AMUSEMENT AND RECREATION ATTENDANTS:
Perform a variety of attending duties at amusement or recreation facility. Schedule use of recreation facilities, allocate equipment to participants of sporting events or recreational pursuits, collect fees for games played, set pins, prepare billiard tables, provide caddying and other services for golfers, and operate carnival rides and amusement concessions.

68021
USHERS, LOBBY ATTENDANTS, AND TICKET TAKERS:
Assist patrons at entertainment events, such as sporting events and motion picture or theater performances. May assist in finding seats, searching for lost articles, and locating such facilities as rest rooms and telephones. Collect admission tickets and passes from patrons.

68026
FLIGHT ATTENDANTS:
Provide personal services to insure the safety and comfort of airline passengers during flight. Greet passengers, verify tickets, record destinations, and assign seats. Explain use of safety equipment. Serve meals and beverages.

69999
ALL OTHER SERVICE WORKERS:
Include all other workers in this category not classified separately.

70000
AGRICULTURAL, FORESTRY, FISHING, AND RELATED OCCUPATIONS:
Include in this Division workers concerned with agricultural production, forestry, and fishing. Also included in this division are agriculture related workers such as animal caretakers and groundskeepers.

79014
GARDENERS AND GROUNDSKEEPERS, EXCEPT FARM:
Maintain grounds of public or private property using hand/power tools or equipment. May perform any combination of tasks, such as mowing, trimming, planting, watering, fertilizing, digging, raking, and sweeping. Additional duties may include minimal care and upkeep of buildings and equipment. May plan and execute small-scale landscaping operations. May dig and prepare graves. Exclude Groundskeepers who disseminate information to the public and patrol public parks to enforce rules and regulations and to detect fires.

80000
PRODUCTION, CONSTRUCTION, OPERATING, MAINTENANCE, AND MATERIAL HANDLING OCCUPATIONS:
Include in this Division all skilled, semiskilled, and unskilled workers performing machine and manual tasks involving production, construction, operating, maintenance, repair, and material handling operations. Organization of the section - Occupations in this section are ordered functionally as follows: Supervising; inspecting; repair; construction; precision production; machine setting, operating, and tending; assembling and hand working; plant and system operation; transportation and material moving equipment operating; and helpers, laboring, and manual material moving. Special instructions - Because of the differing experience and training required, production workers performing precision tasks (whether hand or machine) are reported separately. In addition, the remaining production worker groups are divided between machine and manual operations. The use of hand held power tools is considered a manual operation for the purpose of this survey.

81002
FIRST LINE SUPERVISORS AND MANAGER/SUPERVISORS - MECHANICS, INSTALLERS, AND REPAIRERS:
Directly supervise and coordinate activities of mechanics, repairers and installers. May also supervise helpers assigned to these workers. Manager/Supervisors are generally found in smaller establishments where they perform both supervisory and management functions, such as accounting, marketing, and personnel work. In addition, Manager/Supervisors may also engage, in part, in the same repair work as the workers they supervise. Exclude work leaders who spend 20% or more of their time at tasks similar to those of employees under their supervision and report them in the occupations which are most closely related to their specific work duties.

81005
FIRST LINE SUPERVISORS AND MANAGER/SUPERVISORS - CONSTRUCTION TRADES AND EXTRACTIVE WORKERS:
Directly supervise and coordinate activities of construction or extractive workers. Manager/Supervisors are generally found in smaller establishments where they perform both supervisory and management functions, such as accounting, marketing, and personnel work. In addition, Manager/Supervisors may also engage, in part, in the same construction work as the workers they supervise. Exclude work leaders who spend 20% or more of their time at tasks similar to those of employees under their supervision and report them in the occupations which are most closely related to their specific work duties.

85132
MAINTENANCE REPAIRERS, GENERAL UTILITY:
Perform work involving two ore more maintenance skills to keep the machines, mechanical equipment, and/or structure of an establishment in repair. This occupation is generally found in a small establishment where specialization in maintenance work is impractical. Duties may involve pipefitting, boilermaking, insulating, welding, machining, machine and equipment repairing, carpentry, and electrical work, as well as planning and laying out of work relating to repairs; repairing electrical and/or mechanical equipment; installing, aligning and balancing new equipment; and repairing buildings, floors, or stairs.

85301 (85302,85308)
AUTO AND MOTORCYCLE MECHANICS:
AUTOMOTIVE MECHANICS: Adjust, repair, and overhaul automotive vehicles. May be designated according to specialties, such as Brake Repairers, Transmission Mechanics, or Front-end Mechanics. Exclude Auto Body Repairers, Bus and Truck Mechanics, Diesel Engine Specialists, and Electrical Systems Specialists.
MOTORCYCLE REPAIRERS: Repair and overhaul motorcycles, motor scooters, mopeds, or similar motorized vehicles.

85302
AUTO MECHANICS:
SEE 85301

85305
AUTOMOTIVE BODY AND RELATED REPAIRERS:
Repair, repaint, and refinish automotive vehicle bodies, straighten vehicle frames, and replace damaged vehicle glass.

85320 (85323,85326)
AIRCRAFT MECHANICS AND ENGINE REPAIRERS:
AIRCRAFT MECHANICS: Repair and maintain the operating condition of aircraft assemblies, such as hydraulic and pneumatic systems, landing gear, propeller assemblies, fuel tanks, and airframe assemblies. Inspect, test, modify, and install equipment according to specifications using tools, such as power shears, acetylene welding equipment, rivet guns, and air or electric drills. Include Helicopter Repairers. Exclude Aircraft Engine Specialists and Aircraft Electricians.
AIRCRAFT ENGINE SPECIALISTS: Repair and maintain the operating condition of aircraft engines. Include Helicopter Engine Mechanics. Exclude Aircraft Mechanics whose primary duties do not involve engine repair. Also exclude Electrical System Specialists.

85323
AIRCRAFT MECHANICS:
SEE 85320

85502
CENTRAL OFFICE AND PBX INSTALLERS AND REPAIRERS:
Test, analyze, and repair telephone or telegraph circuits and equipment at a central office location using test meters and hand tools. Analyze and repair defects in communications equipment on customer's premises using circuit diagrams, polarity probes, meters, an a telephone test set. May install equipment.

85702
TELEPHONE AND CABLE TV LINE INSTALLERS AND REPAIRERS:
String and repair telephone and telegraph cable and other equipment for transmitting messages or TV programming. Duties include locating and repairing defects in existing systems; placing, rearranging, and removing underground or serial cables; installing supports, insulation, or guywire systems; and other auxiliary tasks necessary to maintain lines and cables.

85723
ELECTRICAL POWERLINE INSTALLERS AND REPAIRERS:
Install and repair cables or wires used in electrical power or distribution systems. Install insulators, erect wooden poles and light or heavy duty transmission towers. Include workers such as Cable Splicers and Trouble Shooters. Exclude repairers of transformers and substation equipment, and telephone and telegraph communications workers.

85902
HEATING, AIR CONDITIONING, AND REFRIGERATION MECHANICS AND INSTALLERS:
Install and repair heating, air conditioning, and refrigerating systems. Duties include installation and repair of oil burners, hot-air furnaces, heating stoves, and similar equipment in homes and commercial establishments using hand and pipe threading tools. Also included are the installation and repair of cooling and central air conditioning systems.

87110 (87102)
CARPENTER:
Construct, erect, install and repair structures, fixtures and equipment of wood, plywood, and wallboard, using carpentry tools and woodworking machines.

87202
ELECTRICIANS:
Install, maintain, and repair wiring, electrical equipment, and fixtures. Insure that work is in accordance with relevant codes. May read blueprints. Include Protective Signal Installers and Repairers and Street Light Servicers.

87302
BRICK MASONS:
Lay building materials, such as brick, structural tile, concrete, cinder, glass, gypsum, and terra cotta block (except stone) to construct or repair walls, partitions, arches, sewers, and other structures. Include Refractory Brickmasons.

87311
CONCRETE AND TERRAZZO FINISHERS:
Apply cement, sand, pigment, and marble chips to floors, stairways, and cabinet fixtures to finish and attain durable and decorative surfaces according to specifications and drawings. Finish surfaces of freshly poured concrete walls, roads, walkways, and ornamental stone facings of concrete structural products to remove imperfections. Include Concrete Rubbers.

87402
PAINTERS AND PAPERHANGERS, CONSTRUCTION AND MAINTENANCE:
Painters: Paint walls, equipment, buildings, bridges, and other structural surfaces using brushes, rollers, and spray guns. May mix colors or oils to obtain desired color or consistency. Paperhangers: Cover interior walls and ceilings of rooms with decorative wallpaper or fabric.

87502
PLUMBERS, PIPEFITTERS, AND STEAMFITTERS:
Assemble, install, alter and repair pipe systems (metal, plastic, ceramic, composition, etc.) that carry water, steam, air, or other liquids or gases.

87602
CARPET INSTALLERS:
Lay carpets or rugs in homes or buildings. Exclude workers who lay linoleum.

87808
ROOFERS:
Perform duties concerned with covering roofs of structure with slate, asphalt, aluminum, wood, and related materials using brushes, knives, punches, hammers, and other tools. May spray roofs, sidings, and walls with material to bind, seal, insulate, or soundproof sections of structures.

89132
SHEET METAL WORKERS:
Fabricate, assemble, install, and repair sheet metal products and equipment, such as control boxes, drainpipes, and furnace casings. Work may involve any of the following: Set up and operate fabricating machines to cut, bend, and straighten sheet metal; shape metal over anvils, blocks, or forms using hammer; operate soldering and welding equipment to join sheet metal parts; inspect, assemble, and smooth seams and joints of burred surfaces.

89505
CUSTOM TAILORS AND SEWERS:
Design, make, alter, repair, and, in some cases, fit tailor made-to-measure or ready-to-wear garments applying knowledge of garment construction, fabrics, and sewing by hand or machine.

89517
PRESSERS, DELICATE FABRICS:
Press dry cleaned and wet cleaned silk and synthetic fiber garments by hand or machine applying knowledge of fabrics and heat to produce high quality finish. Finish pleated or fancy garments, normally by hand.

89801 (65023)
BUTCHERS AND MEAT CUTTERS:
Cut, trim, and prepare carcasses and consumer-sized portions of meat for sale or for use in food service establishments. Exclude butchers working in slaughtering and meat packing or prepared meat establishments.

92726
LAUNDRY AND DRY-CLEANING MACHINE OPERATORS AND TENDERS, EXCEPT PRESSING:
Operate or tend washing or dry cleaning machines to clean or dry clean commercial, industrial, or household articles, such as suede, leather, and cloth garments, furs, blankets, draperies, fine linens, rugs, and carpets.

92728
PRESSING MACHINE OPERATORS AND TENDERS - TEXTILE, GARMENT, AND RELATED MATERIALS:
Operate or tend pressing machines, such as hot-head pressing, steam pressing, automatic pressing, ironing, plunger pressing, and hydraulic pressing machines, to press and shape articles, such as leather, fur, and cloth garments, or drapes, slipcovers, handkerchiefs, and millinery. Exclude delicate fabric (Precision) Pressers.

92998
ALL OTHER MACHINE OPERATORS AND TENDERS:
Include all other workers in this category not classified separately.

97101
TRUCK DRIVERS, ALL:
Includes all types of commercial truck drivers such as Heavy or Tractor-trailer and Light (route and delivery drivers). May drive tractor-trailer rig of more than 3 tons to transport and deliver goods, livestock, or materials in liquid, loose, or packaged form. May be required to load and unload truck. Delivery and route drivers operate vehicles under 3 tons capacity and pick-up and deliver varied forms of merchandise. Workers who also sell are in OES 97117.

97117
DRIVER/SALES WORKERS:
Drive truck or other vehicle over established routes to deliver and sell goods, such as food products; to collect and deliver items, such as laundry; or to collect coins, refill, and service vending machines. Include newspaper delivery drivers.

97702
AIRCRAFT PILOTS AND FLIGHT ENGINEERS:
Pilot and navigate flight of private or commercial aircraft for the transportation of passengers, freight, mail, or for other purposes. Must be Federally licensed. Include occupations concerned with flight operations and maintenance when a pilot's or flight engineer's license is required. Include test pilots, helicopter pilots, and pilots who accompany other pilots to periodically test and review proficiency.

97956
OPERATING ENGINEERS:
Operate several types of power construction equipment, such as compressors, pumps, hoists, derricks, cranes, shovels, tractors, scrapers, or motor graders to excavate, move and grade earth, erect structures, or pour concrete or other hard surface paving. May repair and maintain equipment in addition to other duties. Exclude workers who specialize in operation of a single type of heavy equipment such as a bulldozer or crane.

98000
HELPERS, LABORERS, AND MATERIAL MOVERS, HAND-EXCLUDE AGRICULTURE AND FORESTRY LABORERS:
Include workers performing non-machine tasks generally of a routine nature. These workers help the production, construction, operating, and maintenance workers covered in the earlier sections. Although they do not operate or tend the machinery or equipment directly, these workers assist in the work of the establishment by machine feeding and offbearing, moving materials (manually), or loading and unloading. They may also clean and wash vehicles and equipment. Handworkers (see earlier section) are distinguished from the workers in this group because they are involved directly in the making of a product.

98311
HELPERS - BRICK AND STONE MASONS, AND HARD TILE SETTERS:
Help Brick Masons, Stone Masons, or Hard Tile Setters by performing duties of lesser skill. Duties include supplying or holding materials or tools and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate construction or maintenance trade occupation previously listed. Exclude construction or maintenance laborers who do not primarily assist Brick Masons, Stone Masons, or Hard Tile Setters.

98312
HELPERS - CARPENTERS AND RELATED:
Help Carpenters or carpentry related craft workers by performing duties of lesser skill. Duties include supplying or holding materials or tools and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate construction or maintenance trade occupation previously listed. Exclude construction or maintenance laborers who do not primarily assist Carpenters or carpentry related craft workers.

98314
HELPERS - PAINTERS, PAPERHANGERS, PLASTERERS, AND STUCCO MASONS:
Help Painters, Paperhangers, Plasterers, or Stucco Masons by performing duties of lesser skill. Duties include supplying or holding materials or tools and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate construction or maintenance trade occupation previously listed. Exclude construction or maintenance laborers who do not primarily assist Painters, Paperhangers, Plasterers, or Stucco Masons.

98316
HELPERS - ROOFERS:
Help Roofers by performing duties of lesser skill. Duties include supplying or holding materials or tools and cleaning work area and equipment. Exclude apprentice workers and report them with the appropriate construction or maintenance trade occupation previously listed. Exclude construction or maintenance laborers who do not primarily assist Roofers.

98319
HELPERS - ALL OTHER CONSTRUCTION TRADES:
Include all other workers in this category not classified separately above.

98799
ALL OTHER FREIGHT, STOCK, AND MATERIAL MOVERS, HAND:
Include all other workers in this category not classified separately above.

98905
VEHICLE WASHERS AND EQUIPMENT CLEANERS:
Wash or otherwise clean vehicles, machinery, and other equipment using such materials as water, cleaning agents, brushes, cloths, and hoses. Exclude Janitors and Building Cleaners.

98999
ALL OTHER HELPERS, LABORERS, AND MATERIAL MOVERS, HAND:
Include all other workers in this category not classified separately.

Glossary of Terms

GLOSSARY

BLS
Bureau of Labor Statistics (Department of Labor). A federal agency which collects, analyzes and publishes data on labor force employment, occupational outlook, unemployment, wages, hours of work, industrial relations, work stoppages, prices, consumer expenditures, productivity, economic growth, and occupation safety and health.

CIP
Classification of Instructional Programs. A categorizing scheme developed by the National Center for Education Statistics (Department of Education). A voluntary classification system that uses a six-digit code to describe all instructional categories by discipline or fields of study.

COG
Council of Governments. An organization of, by, and for local governments. It strengthens both the individual and collective power of local governments—and helps them recognize regional opportunities, resolve regional problems, eliminate unnecessary duplication, and make joint regional decisions. COG also develops the means to assist in the implementation of those decisions.

DOE
Department of Energy. The U.S. agency responsible for selecting the site of the Superconducting Super Collider. Its continued role is to oversee that the SSC is built on time and within budget.

DOT
Dictionary of Occupational Title (Department of Labor). A government document which provides standardized and comprehensive descriptions of job duties and related information for over twenty thousand occupations which are grouped into a systemized classification structure using a nine-digit code.

EIS
Environmental Impact Statement. A study required by the federal government which assesses the potential impact of a federal project at a given site and documents the findings.

INTERLINK
The regional partnership for education and training in the North Central Texas area that was formed in 1988 in conjunction with the Texas Department of Commerce, the Texas Education Agency, and the Texas Higher Education Coordinating Board. Its mission is to increase the efficiency and cost effectiveness of matching education and training in the region with the job requirements of today and the future. INTERLINK's database consists of information gathered from and in conjunction with state and local government and education agencies and with the business community.

I/O MODEL
Input/Output Models. Computer models used mainly to estimate the effects of dollar value changes in the output of various economic sectors. The effects estimated include both the direct effect of the change and the indirect effect that ripple throughout the economy. I/O models measure how changes in particular sectors (such as wages or quantity and value of product) affect all other sectors of the economy and provide industry specific details for data.

LMI
Labor Market Information. Occupational supply and demand information, identification of geographic and occupational areas of potential growth or decline, and assessment of the effects of such growth or decline on individuals, industries and communities; and individual career information.

LMIS
Labor Market Information System. The database system which manages labor market information.

MATSTATS
Matrix Statistics. A module of the SOCRATES system that processes staffing patterns developed by the Texas Employment Commission for the State of Texas. These staffing patterns relate occupational OES codes to industrial SIC code data.

NCTCOG
North Central Texas Council of Governments. A voluntary association of cities, counties, school districts, and special districts in the sixteen-county North Central Texas region. NCTCOG assists local governments in planning for common needs, cooperating for mutual benefit, and coordinating for sound regional development. Counties within the NCTCOG include: Collin, Dallas, Denton, Ellis, Erath, Hood, Hunt, Johnson, Kaufman, Navarro, Palo Pinto, Parker, Rockwall, Somervell, Tarrant, and Wise.

OES
Occupational Employment Statistics (Department of Labor). The federal/state cooperative program which produces current estimates of industry staffing patterns through periodic surveys of the non-farm wage and salary sector of the economy.

PB/MK
Parsons Brinckerhoff/Morrison Knudsen. The primary contractor responsible for architectural, engineering, and construction management for the Superconducting Super Collider.

QWFP
Quality Work Force Planning. A partnership established among employers, educators, and training providers in a region to develop a skilled and educated work force to enhance Texas' economic development and its ability to compete in a global economy. Quality Work Force Planning Committees: a) analyze regional job opportunities and related education and training needs; b) identify regional priorities for vocational-technical education and training programs; and c) develop regional service delivery plans that address vocational-technical education and training program priorities.

RDN
Robert D. Niehaus, Inc. The company that produced the document entitled: Socioeconomic and Infrastructure Impact Assessment for the Superconducting Super Collider in Texas (August 1990) prepared for Argonne National Laboratory and the United States Department of Energy.

ROI
Region of Influence. The nine counties in Texas that will be the most affected by the Superconducting Super Collider: Dallas, Ellis, Hill, Johnson, Kaufman, McClennan, Navarro, Rockwall, and Tarrant.

SIC
Standard Industrial Classification (Office of Management and Budget). The statistical classification standard underlying all establishment-based federal economic statistics classified by industry. The SIC is used to promote the comparability of establishment data describing various facets of the U.S. economy. The classification covers the entire field of economic activities and defines industries in accordance with the composition and structure of the economy. It is revised periodically to reflect the economy's changing industrial organization.

SOCRATES
Standardized Occupational Components for Regional Analysis of Trends in Employment System. A computer-based labor market information system developed by SOICC for Quality Workforce Planning under the auspices of the Texas Department of Commerce, Texas Education Agency and Texas Higher Education Coordinating Board.

SOICC
State Occupational Information Coordinating Committee. The statewide committee whose basic mandate includes: (1) the support of uniformity of labor market data products, coding systems and related information, (2) encouragement of coordination in the production and use of labor market data among education and training entities, and (3) promotion of the development and dissemination of new and existing data to enhance program planning and job seeker effectiveness.

SSCL
Superconducting Super Collider Laboratory. The national lab which will be a basic research tool for scientists who seek to understand the fundamental forces and constituents of the universe. The most important part of the SSC will be an oval ring 54 miles in circumference through which superconducting magnets will steer two needle-thin beams of protons, traveling at nearly the speed of light, in opposite directions. At special regions the two beams will be guided into head-on collisions where their interactions will be recorded and studied by international collaborations of scientists.

ERIC Clearinghouse for Junior Colleges FEB 21 1992